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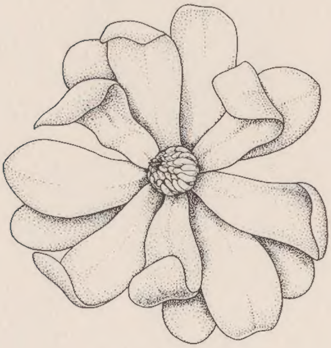

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FLORA OF THE LESSER ANTILLES

Leeward and Windward Islands

BY

RICHARD A. HOWARD
Arnold Arboretum
Harvard University

VOLUME 6

DICOTYLEDONEAE - PART 3

Arnold Arboretum, Harvard University
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1989

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This volume is respectfully and lovingly dedicated to my parents,
Charles and Grace Howard, to my wife, Elizabeth Solie Howard,
and to our children, Jean, Barbara, Bruce and Philip,
all of whom contributed in many ways to this Flora.

8 January 1990 - gift of RAH

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REPRISE

The inspiration for this Flora of the Lesser Antilles began in 1950 during a field trip from Trinidad and Tobago northward through all the Lesser and Greater Antilles while the author was a Junior Fellow of the Society of Fellows of Harvard University. The need for a single Flora of the area was apparent when efforts were made to identify the collections with the out-of-date and incomplete floras and lists of plants for the many islands. A tentative goal was set to complete the work by the centennial of the publication of Grisebach's Flora of the British West Indian Islands, 1859-1864. Administrative positions, teaching and other obligations foiled this plan and desire as it became evident that special collecting efforts would be needed and that many small monographic studies would be necessary. Further, to typify all taxa as proposed required much study of recent and historic collections in many herbaria in the United States and in Europe. With the aid of grants from the National Science Foundation it was possible to enlist the aid of Dr. George R. Proctor for extensive collecting in the Lesser Antilles and of post-doctoral fellows in the writing. Additional grants from the American Philosophical Society and the Guggenheim Foundation supported special trips to collect and study such difficult groups as the cacti and agaves. I look back with pleasure and gratitude on the hospitality offered by several people on Montserrat in reinvestigations of the flora of that island; on the collaboration with Dr. Richard and Anstiss Wagner for valuable collections from Puerto Rico and the Virgin Islands as outliers of the Lesser Antillean flora; and to Ms. Verna Slane, U.S. Peace Corps, for collections made over several years on St. Lucia.

To herbarium curators, bless them all, I am indebted for assistance and tolerance when I sought specific collections and data. Gavin Bridson, then librarian of the Linnean Society, led me to a drawer of unrecognized manuscripts and drawings of Alexander Anderson. This proved most fortuitous in understanding the controversial specimens of Anderson, Guilding, Lochhead and Caley from St. Vincent and other islands. Anderson's manuscripts included an unpublished "Hortus" of the St. Vincent Botanic Garden which listed all of the plants collected during Anderson's and Lochhead's trips to Trinidad, the Guianas, and the northern Lesser Antilles, as well as those plants he obtained from Aiton, Banks, William Hamilton of Philadelphia, Roxburgh, and a number of gardens and nurseries in England. These records permitted the recognition of taxa as then cultivated and not native to the southern Lesser Antilles. Much additional correspondence of Anderson's has been located, and a summary of his life and contributions, including an abbreviation of his "Hortus," will be incorporated in a subsequent publication now planned.

The loss of most of the Berlin herbarium during World War II has been a great handicap in understanding the work of I. Urban. In most cases it has not been possible to select a lectotype or designate a neotype from duplicate collections in other herbaria. This is particularly true of the specimens of Père Duss, whose collections were consolidated before distribution so that labels often had several numbers and locations for a single fragment. These collections were designated with suffix letters by Urban when new taxa were described. Monographers are encouraged to assemble the widely distributed duplicates of Duss collections to determine exactly what specimen Urban had described. Duss apparently was also preparing a work on the cultivated plants of Martinique and Guadeloupe. Such a publication is not known nor has a manuscript been located. Many of Duss's collections were made at the St. Pierre Botanic Garden or near the town of St. Pierre as plants becoming naturalized. That garden was destroyed in the eruption of Mt. Pelée in 1900, and searches of the area by Stehlé and by me have failed to locate many plants reported by Duss.

The species described by O. Swartz also present many unsolved problems in typification. Swartz studied his West Indian collections in the Banks Herbarium in London, and specimens represented there but not in his own collection are indicated with an asterisk in Swartz's Prodromus and his Flora Indiae Occidentalis. Swartz did leave a portion of his collection with Banks and also acquired some fragments for his own collection, now in Stockholm and other Swedish herbaria. Swartz also cited only the collections of others and never his own. Proper typification requires that specimens annotated by Swartz at the BM and Stockholm be compared. This task lies ahead.

From my accumulation of rough lists, descriptions, citation of specimens, notes and references, my collaborators on postdoctoral appointments — Elizabeth Kellogg, Allan Bornstein and George Staples — produced polished treatments of many families credited to them in the several volumes of this Flora. The professional treatments by specialists have added distinction to this Flora. I am grateful to the following for their contributions: Leslie Garay and Homer Sweet (Orchidaceae), George Proctor (Pteridophyta), Frank Gould (Gramineae), Tetsuo Koyama (Cyperaceae), Robert Read (Palmae), Paul Maas (Zingiberaceae, Burmanniaceae), Rogers McVaugh (Myrtaceae), William Anderson (Malpighiaceae), Paul Fryxell (Malvaceae), Ihsan Al-Shehbaz (Cruciferae, Capparaceae), Timothy Plowman (Erythroxylaceae), Dulcie Powell (Convolvulaceae), Shirley Graham (Lythraceae) and Hollis Bedell (Marcgraviaceae).

Many colleagues have answered questions, but my most valued correspondent has been Dan Nicolson of the Smithsonian Institution, whose work toward the Dicotyledoneae of Dominica has developed along with my own. I hope that I have followed all his astute advice on nomenclatural problems.

Finally, these volumes would not have appeared without the efforts of the staff of the Office of the University Publisher. I am indebted to Daniel Griffin and Valerie Carr for their cooperation and help.

ACKNOWLEDGMENTS

Several family treatments for this volume were prepared by the following individuals, whose contribution is gratefully acknowledged: Allan Bornstein (Haloragaceae, Ericaceae); Dulcie Powell (Convolvulaceae), George Staples (revised Convolvulaceae, Goodeniaceae). Generic treatments were prepared and used as submitted by: Walter Holmes (*Mikania*), John Olsen (*Verbesina*) and Roger Sanders (*Lantana*, *Duranta*). Manuscripts of other families were sent to specialists who willingly read, edited, and made suggestions and additions. Their help too is much appreciated: Lincoln Constance (Umbelliferae), Mary Fallen (Apocynaceae), David Frodin (Araliaceae), Alwin Gentry (Bignoniaceae), Peter Green (Oleaceae), Ray Harley (Labiatae), Paul Maas (Gentianaceae), Michael Nee (Solanaceae), Terry Pennington (Sapotaceae), David Philcox (Scrophulariaceae), John Pipoly (Myrsinaceae), Laurence Skog (Gesneriaceae), Warren Douglas Stevens (Asclepiadaceae), Peter Taylor (Lentibulariaceae) and Dieter Wasshausen (Acanthaceae).

We failed to credit the treatment of *Miconia* in Volume 5 to Elizabeth Kellogg.

The vast majority of the illustrations for this volume were made by my colleague, Dr. Ihsan Al-Shehbaz. A few are the work of Margaret van Montfrans Dykens, and the drawing of *Mikania* was prepared by Ms. Un K. Choe for Dr. Holmes. To Dorothea Talbot and Elizabeth Howard I am again grateful for their careful editorial work, proof reading, and the more comprehensive index.

ONAGRACEAE

by Allan J. Bornstein

ONAGRACEAE A. L. Juss., Gen. Pl. 317. 1789 ('Onagrae').

Herbs, rarely shrubs or even trees. Leaves alternate, opposite, or whorled, petiolate or sessile; blades simple or occasionally lobed or pinnatifid, entire or serrate; stipules usually absent, if present then small and caducous. Inflorescences axillary, leafy-bracteate or naked spikes, racemes, or panicles, or flowers solitary. Flowers regular or occasionally irregular, perfect or rarely unisexual; hypanthium elongate, prolonged beyond ovary or not; sepals 2 to 7, valvate, appearing as lobes at apex of hypanthium, persistent or deciduous; petals generally as many as sepals, rarely wanting, imbricate, valvate, or convolute, often clawed or stipitate; stamens as many or twice as many as sepals, uni- or bicyclic respectively, borne within hypanthium or surrounding epigynous disk, filaments free, filiform, anthers usually versatile, bithecate, longitudinally dehiscent; ovary inferior, of as many carpels and locules as sepals (or occasionally fewer locules due to incomplete septae), ovules numerous per locule on axile placentae (or parietal), style simple, stigma capitate to 4-lobed. Fruit usually a loculicidal capsule, sometimes a berry or small nut; seeds numerous or seldom only few or one, without endosperm.

TYPE: *Onagra* Miller, nom. illegit. (= *Oenothera* L.).

A mostly temperate and subtropical family of approximately 17 genera and roughly 650 species, best developed in the New World, especially in the western United States.

LUDWIGIA L.

Ludwigia L., Sp. Pl. **1:** 118. 1753 ('Ludvigia').

Syn.: *Isnardia* L., Sp. Pl. **1:** 120. 1753. Type: *Isnardia palustris* L. = *Ludwigia palustris* (L.) Elliott.
Jussiaea L., Sp. Pl. **1:** 388. 1753. Lectotype: *Jussiaea repens* L.; vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed. 2, **2:** 589. 1913 = *Ludwigia adscendens* (L.) Hara.

Slender herbs or shrubs, erect or prostrate and rooting at nodes, often found in marshy habitats. Leaves alternate or opposite, mostly entire; stipules absent or small and caducous. Inflorescences various, the flowers mostly solitary, pedicellate or sessile, with or without 2 bracteoles at base of ovary. Flowers with hypanthium not prolonged beyond ovary; sepals (3 to)4 to 6(to

7), persistent; petals as many as sepals (rarely absent), convolute, caducous; stamens as many or twice as many as sepals, anthers versatile or occasionally basifixed; disk flat or conical, often with depressed nectaries surrounding base of stamens; ovary with 4 to 6 locules, placentation axile, the ovules uni- or pluriseriate, stigma capitate or hemispherical, often lobed. Fruit a capsule, dehiscence irregular or by a terminal pore or flaps separating from valvate apex; seeds with prominent raphe, sometimes embedded in segments of endocarp.

LECTOTYPE: *Ludwigia alternifolia* L.; vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed. 2, **2:** 586. 1913.

A temperate to pantropical genus of about 75 species, best developed in the New World, especially South America. For additional information see P. A. Munz, Darwiniana **4:** 179-284. 1942; P. H. Raven, Reinwardtia **6:** 327-427. 1963; and T. P. Ramamoorthy & E. M. Zardini, Monogr. Syst. Bot. **19:** 1-120. 1987.

NOTE: *Isnardia* and *Ludwigia* were first combined by Elliott (Sketch Bot. S. Carolina **1:** 211. 1817) who used the latter name. Similarly, *Jussiaea* and *Ludwigia* were first combined by Baillon (Hist. Pl. **6:** 463. 1877) who also chose *Ludwigia*. Therefore, according to the ICBN, article 57.2, *Ludwigia* must be accepted as the correct, prioritized name whenever these genera are considered synonymous.

QUESTIONABLE RECORDS

Ludwigia affinis (DC.) H. Hara was reported by Munz (as *Jussiaea affinis* DC.) on the basis of the following collections: *Hahn 761* (K) and *Duss 806* (B), both from Martinique, and *Broadway 1217* (B) from Grenada. We have not seen any of these collections, but given the general similarity between *Ludwigia affinis* and *Ludwigia leptocarpa*, it is conceivable that these specimens have been misidentified. The two taxa are supposedly distinguished on the basis of leaf shape (elliptic to ovate vs. linear to lanceolate), the length of the sepals (3.5-5 mm vs. 5.5-11 mm), and the length of the style (0.5-2 mm vs. 3-4.5 mm), respectively. In our opinion these distinctions seem questionable, which is apparently substantiated by Munz, who states that the two species ''intergrade freely.'' A detailed study of the relationship between these taxa is warranted.

KEY TO THE SPECIES

1. Seeds free, not embedded in endocarp, pluriseriate.
    2. Capsules terete, 1.7-4.5 cm long; raphe of seed much inflated, equal in dia. to body of the seed, transversely ridged . . . . *L. octovalvis*
    2. Capsules 4-angled, < 2 cm long; raphe of seed linear, < 1/4 the dia. of the body of the seed, smooth.

    3. Leaves with petioles 2-15 mm long; stems strongly angled, not winged; sepals 2-6 mm long; petals 3.5-5 mm long . . . . *L. erecta*
    3. Leaves sessile or subsessile; stems winged; sepals 7-10 mm long; petals 8-12 mm long . . . . *L. decurrens*
1. Seeds embedded in endocarp, uniseriate (except in upper portion of the capsule of *L. hyssopifolia*).
  4. Sepals 5 to 7; seeds uniseriate in each locule and embedded in endocarp throughout the length of the capsule; petals 5-11 mm long . . . . *L. leptocarpa*
  4. Sepals 4; seeds uniseriate and embedded in endocarp below, pluriseriate and free in the upper 1/4 of the capsule; petals 2-3 mm long . . . *L. hyssopifolia*

Ludwigia decurrens Walter, Fl. Carol. 89. 1788.

Type: South Carolina, Berkley Co., Saint John Parish, Santee River, *Walter s.n.* (holotype, BM; photo GH!).
Syn.: *Jussiaea decurrens* (Walter) DC., Prodr. **3:** 56. 1828.

Erect, freely branching herbs to 2 m tall; stems 4-winged from decurrent leaf bases, the wings to 2 mm wide, subglabrous with minute appressed hairs. Leaves alternate, sessile or nearly so; blades lanceolate to narrowly elliptic, the uppermost often linear, 2-14 × 0.2-3.2 cm, base attenuate, apex acute to acuminate, margin ciliolate, secondary veins 11 to 16 pairs, glabrous above, with minute appressed hairs beneath. Flowers solitary in upper axils, with pedicels 1-5 mm long; sepals 4, lance-ovate, 7-11 mm long, acuminate, appressed puberulent without, glabrous within, ciliolate; petals obovate, 8-12 mm long, yellow; stamens 8, unequal, filaments 1.5-2.5 mm long, anthers ca. 1-1.5 mm long; disk not elevated, or only slightly so, with depressed pubescent nectary at base of each antipetalous stamen; style 1.5-2 mm long, stigma capitate, globose, 1.5-2 mm thick. Fruits oblong-clavate, 1-2 cm long, sharply 4-angled with 4+ flat walls and 4 prominent dark ribs at the angles; seeds pluseriate in each locule, free, oblong-subcylindric, 0.3-0.5 mm long, pale brown to yellowish, raphe linear, < 1/4 the diameter of the body.

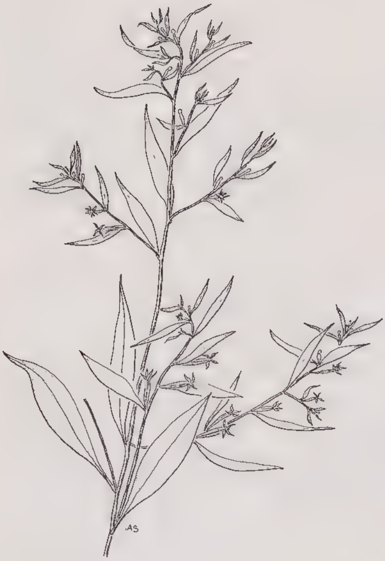
GENERAL DISTRIBUTION: Southeastern United States, Mexico, Central America and South America; introduced in the Old World to Africa and Japan.

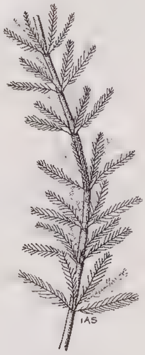
DISTRIBUTION IN LESSER ANTILLES: St. Vincent!.

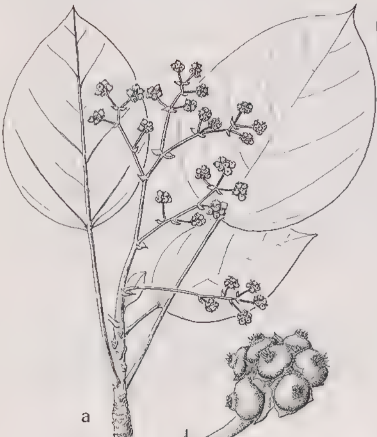
NOTES: This species is known in our area from a single collection, *H. H. & G. W. Smith 296* (GH!, NY!), and as such the description is based on material from South America.

Ludwigia erecta (L.) H. Hara, J. Jap. Bot. **28:** 292. 1953. FIGURE 1.

Basionym: *Jussiaea erecta* L., Sp. Pl. **1:** 388. 1753.
Lectotype: LINN 552.4; see Fawcett, J. Bot. **64:** 11-12. 1926. This collection was designated as a neotype by Bizzarri & Raven (Webbia **27:** 486-489. 1972) on the assumption that it was not in the Linnaean herbarium prior to 1753.
Syn.: *Jussiaea acuminata* Sw., Fl. Ind. Occid. **2:** 745. 1798. (Lectotype: Jamaica, *Swartz s.n.* (S); see Munz, Darwiniana **4:** 195. 1942.)







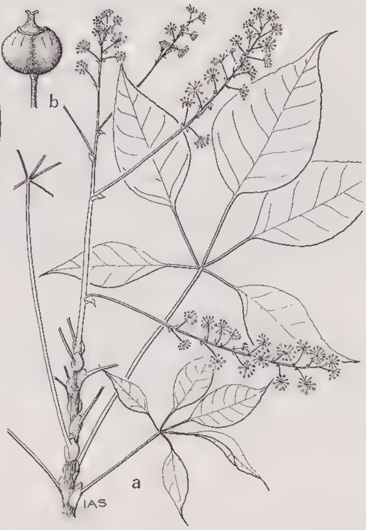


FIGURE 1 (upper left). *Ludwigia erecta*: × 0.3. FIGURE 2 (upper right). *Myriophyllum aquaticum*, × 0.3. FIGURE 3 (lower left). *Oreopanax capitatus*: a, fruiting branch, × 0.3; b, fruiting cluster, × 1.5. FIGURE 4 (lower right). *Schefflera attenuata*: a, flowering branch, × 0.3; b, fruit, × 1.5.

Erect freely branching herb to 3 m tall, often woody at base; stems sharply angled but not winged, subglabrous with minute appressed hairs. Leaves alternate with ± distinct petioles 2-15 mm long; blades lanceolate to linear-lanceolate or lance-elliptic, those of lateral branches and upper portion of main axis the smallest, 2-13.5 × 0.3-3.8 cm, base attenuate, apex acute to acuminate, margin ciliolate, secondary veins 16 to 25 pairs, glabrous above, usually appressed puberulent beneath. Flowers solitary in upper axils, normally sessile; sepals 4, narrowly lance-ovate, 3-6 mm long, acute to acuminate, appressed puberulent without, glabrous within, ciliolate; petals obovate, 3.5-5 mm long, yellow; stamens 8, subequal, filaments ca. 1.5 mm long, anthers ca. 0.5-0.75 mm long; disk not elevated, with depressed, white-pubescent nectary at base of each antipetalous stamen; style to 1.25 mm long, stigma capitate, globose, ca. 1 mm thick. Fruits oblong-clavate, 1-2 cm long, sharply 4-angled with 4 ± flat walls and 4 prominent dark ribs at the angles; seeds pluseriate in each locule, free, oblong-subcylindric, 0.3-0.4 mm long, yellow-brown, raphe linear, < 1/4 the diameter of the body.

GENERAL DISTRIBUTION: Central Mexico through Central America to Paraguay and central Brazil, and Florida through the West Indies; introduced in the Old World in tropical Africa, Madagascar, and the Seychelle and Mascarene Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent, Grenada!, Barbados.

COMMON NAMES: Girofle-mare, girofle-ma, gironflé, herbe à pique.

Ludwigia hyssopifolia (Don) Exell *in* Fernandes & Ros. Fernandes, Garcia de Orta **5:** 471. 1957.

Basionym: *Jussiaea hyssopifolia* Don, Gen. Hist. **2:** 693. 1832.
Type: Africa, São Tomé, in 1822, *G. Don 42* (holotype, BM).
Syn.: *Jussiaea linifolia* M. Vahl, Eclog. Amer. **2:** 1798, not *Ludwigia linifolia* Poiret (1813). (Type: 'America meridionali,' *von Rohr 188* (holotype, C).)
Jussiaea acuminata sensu Griseb., Fl. Brit. W. Indian Is. 272. 1860, pro parte.

Erect usually freely branching herb to 1 m tall, often woody at base; stems inconspicuously winged, subglabrous with minute appressed hairs. Leaves alternate, from nearly sessile to distinctly petiolate, the petioles to 25 mm long; blades lanceolate to ovate-lanceolate or linear-lanceolate, 1-9.4 × 0.4-2.5 cm, base attenuate, apex acute to acuminate, margin ciliolate, secondary veins 11 to 16 pairs, glabrous or with few, scattered, appressed hairs beneath. Flowers solitary in upper axils, sessile or nearly so; sepals 4, lanceolate, 2.5-4 mm long, acute, appressed puberulent without, glabrous within; petals elliptic, 2-3 mm long, yellow; stamens 8, unequal, filaments 0.5-2 mm long, anthers ca. 0.5 mm long; disk slightly elevated, with depressed pubescent nectary at base of each antipetalous stamen; style 1-1.5 mm long, stigma subcapitate, depressed-globose, ca. 1 mm thick. Fruits subterete, cylindrical, enlarged in upper 1/4-1/3, 1.5-2.5 cm long; seeds uniseriate in each locule below, embedded in triangular to cuboidal segments of endocarp, oblong-ovoid, ca. 0.7-1 mm long, raphe linear, ca. 1/3 the diameter of the body, seeds in upper enlarged section of capsule pluriseriate in each locule, free, ovoid, 0.5 mm long, raphe linear, ca. 1/4 the diameter of the body.

GENERAL DISTRIBUTION: Mexico, Central America, South America, Cuba, and the Lesser Antilles; also found (introduced ?) in tropical Africa, and from India-Sri Lanka through southeast Asia, Indomalesia, the Philippines, northern Australia, and the Pacific Islands.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, Grenada!.

COMMON NAMES: Girofle-ma, gironflé, gironflé-mare, herbe à pique, ti-girofle-mare, ti-girofle-ma.

Ludwigia leptocarpa (Nutt.) H. Hara, J. Jap. Bot. **28:** 292. 1953.

Basionym: *Jussiaea leptocarpa* Nutt., Gen. N. Amer. Pl. **1:** 279. July 1818 ('Jussieua'). Type: United States, Mississippi, *Nuttall s.n.* (holotype, PH).

Syn.: *Jussiaea variabilis* G. Meyer var. *variabilis*, Prim. Fl. Esseq. 174. Nov. 1818. (Type: Guyana, Río Essequebo, 'Plantation Hamburg,' collector unknown, (GOET ?).)

Jussiaea variabilis G. Meyer var. *meyeriana* Kuntze, Revis. Gen. Pl. **1:** 251. 1891, based on *Jussiaea variabilis* G. Meyer.

Jussiaea biacuminata Rusby, Mem. New York Bot. Gard. **7:** 317. 1927. (Type: Bolivia, Beni, Lake Rogagua, *Rusby 1601* (holotype, NY; isotype, GH).)

Jussiaea leptocarpa Nutt. var. *genuina* Munz, Darwiniana **4:** 255. 1942.

Jussiaea leptocarpa Nutt. var. *genuina* Munz forma *biacuminata* (Rusby) Munz, Darwiniana **4:** 257. 1942.

Jussiaea leptocarpa Nutt. var. *meyeriana* (Kuntze) Munz, Darwiniana **4:** *258. 1942.*

Suffruticose multibranched herb to 3 m tall, shrublike; stems glabrous to puberulent to pilose. Leaves alternate with petioles 0.3-1.1 cm long; blades lanceolate to linear-lanceolate or lance-elliptic, or occasionally ovate, 1.8-9.3 × 0.5-2.4 cm, base attenuate, apex acute to acuminate, margin ciliolate, secondary veins 11 to 20 pairs, glabrous to puberulent to pilose on both surfaces. Flowers solitary in upper axils with pedicels to 7 mm long; hypanthium glabrous to puberulent to pilose; sepals 5 or 6, rarely 4 or as many as 7, lanceolate, 5-8 mm long, acuminate, glabrous to puberulent to pilose without, glabrous within; petals obovate, 5-10 mm long, yellow; stamens twice as many as sepals, unequal, filaments 2-4 mm long, anthers 1-1.5 mm long; disk slightly elevated, with depressed densely white-pubescent nectary at base of each antipetalous stamen; style 2-3 mm long, stigma capitate, globose, ca. 1 mm thick. Fruits cylindrical, 2.2-3 cm long, terete, glabrous to pilose; seeds uniseriate in each locule, loosely embedded in a hippocrepiform segment of endocarp, obovoid, 1 mm long, yellow-brown, raphe linear, winglike, < 1/5 the diameter of the body.

GENERAL DISTRIBUTION: Southeastern United States, Mexico, Central America, the West Indies, and South America; in the Old World confined to Africa and Madagascar.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Marie Galante!, Dominica!, Martinique, St. Lucia, St. Vincent, Grenada!, Barbados.

COMMON NAMES: Grand girofle-ma, grand girofle-mare, grand herbe à pique.

NOTE: Munz (1942) recognized 3 varieties and one form of *Jussiaea leptocarpa* primarily on the basis of the degree of pubescence and the shape of the leaves. The material in our area is either glabrous, puberulent, or distinctly pilose, which would correspond roughly to his taxa var. *meyeriana*, var. *genuina* forma *biacuminata*, and var. *genuina*, respectively. For now we have chosen to recognize only the one species as we await the detailed field research necessary to determine the validity of these subspecific categories.

Ludwigia octovalvis (Jacq.) Raven, Kew Bull. **15:** 476. 1962.

Basionym: *Oenothera octovalvis* Jacq., Enum. Syst. Pl. 19. 1760; Select. Stirp. Amer. Hist. 102, *t. 70.* 1763.

Lectotype: Plum., Pl. Amer. *t. 175, fig. 1.* 1758; see Bizzarri & Raven, Webbia **27:** 490-491. 1972.

Syn.: *Jussiaea suffruticosa* L., Sp. Pl. **1:** 388. 1753. (Type: India, material apparently lost (Raven, 1963).) Lectotypification needed.

Jussiaea pubescens L., Sp. Pl. ed. 2, **1:** 555. 1762. (Type: LINN 552.3; see Fawcett, J. Bot. **64:** 13. 1926.)

Jussiaea hirsuta Miller, Gard. Dict. ed. 8. no. 5. 1768. (Lectotype: Mexico, Veracruz, *Houstoun s.n.* (BM); see Raven, Reinwardtia **6:** 357. 1963.)

Jussiaea angustifolia Lam., Encycl. **3:** 331, *pl. 280, fig. 3.* 1789. (Lectotype: Moluccas, collector unknown (P-LA?); see Raven, Reinwardtia **6:** 357. 1963.)

Jussiaea hirta Lam., Encycl. **3:** 331. 1789. (Type: Brazil, *Commerson s.n.* (P-JU #13737; IDC 6206. 1014: III. 1, photo!).)

Jussiaea octonervia Lam., Encycl. **3:** 332, *pl. 280, f. 1.* 1789, nom. illegit. for *Oenothera octovalvis* Jacq.

Jussiaea villosa Lam., Encycl. **3:** 331. 1789. (Type: India, Coromandel, *Commerson s.n.* (P-JU #13734; IDC 6206. 1014: II. 5, photo!).)

Jussiaea octovalvis (Jacq.) Sw., Observ. Bot. 142. 1791.

Jussiaea ligustrifolia Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **6:** 80 (ed. folio), 100 (ed. quarto). 1823.

Jussiaea octofila DC., Prodr. **3:** 57. 1828, nom. illegit. for *Oenothera octovalvis* Jacq. (same type).

Jussiaea octonervia Lam. forma *sessiliflora* Micheli *in* C. Martius, Fl. Bras. **13(2):** 171. 1875. (Type: Brazil, Rio de Janeiro, *Burchell 927* (lectotype, K; isolectotype, GH!); see Munz, Darwiniana **4:** 237. 1942.)

Jussiaea suffruticosa L. var. *sintenisii* Urban, Symb. Antill. **4:** 469. 1910. (Type: Puerto Rico, near Hato Grande, at Mount Gregory, *Sintenis 2719* (holotype, B, presumably destroyed).)

Jussiaea suffruticosa L. var. *linearifolia* Hassler, Repert. Spec. Nov. Regni Veg. **12:** 277. 1913. (Type: Paraguay, Camp San Luis, *Fiebrig 4128* (holotype, G).)

Suffruticose herb to 1.5 m tall, often shrublike; stems subglabrous, puberulent to pilose or densely villous. Leaves alternate with petioles to 12 mm long; blades linear to lanceolate or narrowly ovate, occasionally ovate-elliptic, 1.3-16.2 × 0.3-3.3 cm, base cuneate to attenuate, apex acute to acuminate, margin ciliolate, secondary veins 10 to 20 pairs, subglabrous to appressed puberulent to pilose or densely villous on both surfaces, but especially beneath. Flowers solitary in upper axils with pedicels to 17 mm long; hypanthium glabrous to densely villous; sepals 4, ovate to lanceolate, 5-12 mm long, acute to acuminate, often abruptly so, glabrous to villous; petals cuneate-obovate, 5-16 mm long, yellow; stamens 8, unequal, filaments 1.5-3.5 mm long, anthers 1-1.75 mm long; disk slightly elevated, with depressed very densely white-pubescent nectary at base of each antipetalous stamen; style 1-3 mm long, stigma subglobose, slightly 4-lobed, 1.5-2.5 mm thick. Fruits cylindrical, tapering at base, 2.2-5 cm long, terete, with 8 conspicuous ribs, glabrous to densely villous; seeds pluriseriate in each locule, free, appearing rounded due to expanded raphe, 0.6-0.7 mm long, brown, the raphe equal in size to the body, transversely striate.

GENERAL DISTRIBUTION: Pantropical, but also present in the southern regions of the United States.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Grand girofle-ma, girofle-ma, grand gironflé, grand herbe à pique, girof' gl'eau, jiwóf glo.

NOTES: This species is highly variable with respect to leaf shape and especially the degree of pubescence. Several subspecies have been proposed in an attempt to recognize this variation in a taxonomic sense. Of these subspecies, only 2 can be more or less recognized in our area; subsp. *octovalvis* with predominantly subglabrous to appressed puberulent indument and lanceolate to linear leaves, and subsp. *sessiliflora* with pilose to densely villous pubescence (the hairs long and erect) and leaves tending toward subovate. In the Lesser Antilles these distinctions break down significantly, especially for the leaf shape character. Although the extreme forms of pubescence are very distinct, there are numerous specimens that appear intermediate for this feature. As far as we can determine this variation is not correlated with geography or habitat, and therefore we have chosen not to recognize any infraspecific categories. This sentiment is apparently shared by Raven, who first proposed the subspecies of *Ludwigia octovalvis* in 1963 but later issued a retraction in his treatment of the Onagraceae for Flora Malesiana (1977).

A large number of combinations have been made at the infraspecific level for the numerous basionyms cited above. These have not been listed here, but many of these names and their appropriate references can be found in the article by Raven (1963).

HALORAGACEAE

by Allan J. Bornstein

HALORAGACEAE R. Br. in Flinders, Voy. Terra Austr. 2: 549. 1814. ('Halorageae').

Submerged to emergent aquatic or terrestrial herbs, rarely shrubs or small trees, glabrous or with uniseriate hairs. Leaves opposite, alternate, or whorled, sessile or petiolate; blades simple, entire, toothed or pectinate; exstipulate. Inflorescences terminal spikes, racemes, or panicles, or flowers solitary and axillary. Flowers regular, perfect or more often unisexual (plants then usually monoecious), each subtended by two bracteoles; sepals 4, rarely 3, valvate, persistent; petals 4 (or absent in pistillate flowers of *Myriophyllum*), imbricate, deciduous; stamens 4 or 8, filaments short, filiform, anthers relatively large, bithecate, dehiscent by longitudinal slits; ovary inferior, of 3 or 4 locules (carpels), each with a single ovule pendulous from apex, styles as many as sepals, stigmas fimbriate. Fruits small, indehiscent, nutlike or drupaceous, or in *Myriophyllum* separating into 1-seeded mericarps; seeds with abundant endosperm.

TYPE: *Haloragis* Forster & Forster f.

As currently circumscribed (excl. Gunneraceae & Hippuridaceae), a cosmopolitan family of 8 genera and ca. 100 species, best developed in the Southern Hemisphere, especially Australia. For additional information see A. E. Orchard, Bull. Auckland Inst. Mus. **10:** 1-299. 1975.

NOTE: The family name is often variously misspelled as Haloragidaceae, Halorrhagaceae, or Halorrhagidaceae, all of which are orthographic variants of the conserved name Haloragaceae.

MYRIOPHYLLUM L.

Myriophyllum L., Sp. Pl. **2:** 992. 1753.

Annual or perennial aquatic herbs, free-floating or attached to substrate via roots arising from lower nodes, glabrous throughout. Leaves typically whorled, sometimes alternate or opposite, usually bimorphic, the submerged ones pectinately divided, the emergent ones ± entire. Flowers borne singly in axils of emergent leaves, often aggregated into a terminal spike, unisexual (plants monoecious, or in our species dioecious); sepals 4, often much reduced or absent in pistillate flowers; petals 4, absent in pistillate flowers; stamens 4 or more often 8, absent in pistillate flowers; ovary with clavate styles, stigmas recurved, absent or much reduced in staminate flowers. Fruits separating at maturity into dry 1-seeded mericarps.

LECTOTYPE: *Myriophyllum spicatum* vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed. 2, **2:** 614. 1913.

A ± cosmopolitan genus of ca. 40 species, one of which has apparently been introduced in our area. For additional information see S. G. Aiken, Brittonia **33:** 57-69. 1981 and Trail & Landscape **18:** 35-52. 1984; A. E. Orchard, Brunonia **2:** 247-287. 1980; and Brunonia **4:** 27-65. 1981.

Myriophyllum aquaticum (Vell. Conc.) Verdc., Kew Bull. **28:** 36. 1973. FIGURE 2.

Basionym: *Enydria aquatica* Vell. Conc., Fl. Flumin 57. 1829 (1825); Icones **1:** *t. 150.* 1831 (1827).

Lectotype: Fl. Flumin. Icones **1:** *t. 150.* 1831; see Orchard, 1980.

Syn.: *Myriophyllum brasiliense* Cambess. *in* A. St. Hil., Fl. Bras. Merid. **2:** 252. 1830. (Type: Brazil, ''In paulidibus prope Jondiahi haud longe ab urbe S. Pauli. Florebat Octobri,'' *St. Hilaire s.n.* (holotype, MPU).)

Myriophyllum proserpinacoides Gillies ex Hook. & Arn., Bot. Misc. **3:** 313. 1833. (Lectotype: Argentina, Ditches at Buenos Ayres, *Gillies s.n.* (K; isolectotype, GL, photo, A!); see Orchard, 1980.)

Stout aquatic herb, free-floating or with a significant portion of plant emergent, rooting at lower nodes; stems sparingly branched, to 2 m long, glabrous or puberulent, at least when young. Leaves whorled, (4 or)5 or 6 at a node, oblanceolate in outline, pectinate, 1-3.5 cm long, the divisions alternate or subopposite, linear-filiform, usually 20 to 30 per blade, 2-7 mm long; numerous linear-filiform ''hydathodes'' present at base of leaves. Flowers solitary per leaf axil, not aggregated to form a distinct inflorescence, unisexual (plants dioecious or rarely monoecious and then with male flowers borne above female flowers); male flowers with pedicels to 4 mm long, sepals oblong-lanceolate or narrowly triangular, 0.5-1.5 mm long, obscurely and remotely denticulate, petals oblong-obovate, navicular, 2-3 mm long, stamens 8, filaments accrescent to ca. 1 mm after anthesis, anthers oblong, 2-2.5 mm long, ovary rudimentary; female flowers with pedicels < 0.5 mm long, sepals as for the male flowers but only to ca. 0.5 mm long, petals and stamens absent, ovary quadrangular, ca. 1 mm long, styles 4, short and inconspicuous, stigmas white, densely fimbriate. Fruits not seen.

GENERAL DISTRIBUTION: Native to southern Brazil, Uruguay, Paraguay, Argentina, Chile, and Peru. Adventive in Mexico, Central America, the United States, Europe, Africa, Malaysia to Australia, and some of the Pacific Islands.

DISTRIBUTION IN LESSER ANTILLES: Dominica!.

NOTES: Material from South America was examined to form the basis of the description provided, especially since staminate (and monoecious) specimens are known only from within the natural range of the species. Fruiting specimens are virtually unknown anywhere, with reproduction being accomplished via fragmentation.

The single collection from Dominica (*Whitefoord 5512*) was made at the Canefield Estate, probably from a specimen growing in one of the pools or fountains on the grounds. This species, known as ''Parrot feather'' in many areas, is the most common species of *Myriophyllum* used in aquaria, which may explain, in part, its rather far-reaching distribution outside of its natural range.

In many of the recent publications dealing with this species, the citation of Verdcourt's publication of the new combination is in error. Orchard (1980 & 1981), Aiken (1981), and Mora-Osejo (Fl. Colombia **3:** 60. 1984), all incorrectly list the Kew Bulletin volume as number 23 rather than number 28, an apparent oversight.

ARALIACEAE

ARALIACEAE A. L. Juss., Gen. Pl. 217. 1789.

Shrubs or trees. Leaves simple, pinnate-, digitate-, or palmate-compound, entire, coriaceous, pubescent or glabrous; stipules ligulate. Inflorescences umbels, or racemose or paniculate heads. Flowers small, perfect, andromonoecious or andro-dioecious; calyx tube adnate to ovary, sepals small; petals 5, valvate, free or coherent; stamens as many as petals and alternate with them; disk present; ovary inferior, 1- to several-celled, ovules solitary in each locule, styles as many as locules. Fruits fleshy, baccate or drupaceous, seeds flattened or 3-angled.

TYPE: *Aralia* L.

Primarily a tropical family of 50 genera and about 1200 species of predominantly woody plants. For a regional monographic treatment see A. C. Smith, N. Amer. Fl. **28B:** 3-41. 1944.

NOTE: The record of *Dendropanax arboreus* (L.) Decne. & Planchon from St. Vincent by Seemann (J. Bot. **2:** 302. 1864), and repeated subsequently by many authors is based on an Alexander Anderson collection presumably of a cultivated plant. Unfortunately, no entry in Anderson's Hortus can be identified as this plant. It has not been collected on St. Vincent subsequently.

KEY TO THE GENERA

1. Leaves once or more pinnately compound, occasionally reduced to single terminal leaflet, with rachis articulations; blades without pellucid glands; flowers with articulate pedicels; (cultivated) . . . . *Polyscias*
1. Leaves simple or digitately compound.
    2. Leaves simple, without pellucid glands; flowers sessile in heads . . . . *Oreopanax*
    2. Leaves digitately compound; petiole with conspicuous, coriaceous ligule; flowers pedicellate, arranged in a raceme of umbels . . . . *Schefflera*

OREOPANAX Decne. & Planchon

Oreopanax Decne. & Planchon, Rev. Hort. sér. 4, **3:** 107. 1854.

Shrubs or trees, glabrous or variously pubescent. Leaves with petioles often dilated at base but without prominent extended ligule; blades simple, lobed or entire, lacking pellucid glands. Inflorescences terminal, paniculate or racemose, globose heads. Flowers sessile or nearly so, 5-merous, androdioecious; calyx cupuliform, minutely denticulate; petals valvate; stamens inflexed in bud, anthers oblong, obtuse at both ends; styles in pistillate flowers 2 to 10, in staminate flowers 1 or 2. Fruits subglobose or ellipsoid; seeds as many as locules.

TYPE: *Aralia capitata* Jacq. = *Oreopanax capitata* (Jacq.) Decne. & Planchon.

A genus of about 120 species of tropical America.

KEY TO THE SPECIES

1. Leaf blades entire, or 3-dentate or 3-lobed .... *O. capitatus*
1. Leaf blades 5- to 9-lobed.
    2. Leaves cordate at base, lobed for 1/3 of their length, veins obscured below by dense tomentum; inflorescences few-branched, to 20 cm long and broad .... *O. dussii*
    2. Leaves truncate or obtuse at base, lobed 1/2 to 3/4 of their length, veinlets prominent below; inflorescences multi-branched, to 40 cm long and broad .... *O. ramosissimus*

Oreopanax capitatus (Jacq.) Decne. & Planchon, Rev. Hort. sér. 4, **3:** 108. 1854. FIGURE 3.

Basionym: *Aralia capitata* Jacq., Enum. Syst. Pl. 18. 1760; Select. Stirp. Amer. Hist. 89, *t. 61.* 1763.
Type: Jacq., loc. cit. *t. 61.*
Syn.: *Sciadophyllum capitatum* (Jacq.) Griseb., Fl. Brit. W. Indian Is. 306. 1860.

Shrub or tree to 15 m tall, young plants often epiphytic. Leaves with petioles slender, 6-15(-30) cm long; blades ovate, elliptic, or oblong-elliptic, 10-15(-25) × 7-10(-25) cm, base rounded, apex acute, margin entire or 3-dentate or 3-lobed, slightly revolute, primary veins 5, thinly coriaceous to papyraceous. Inflorescences to 20 cm long and broad, branches and pedicels closely stellate-tomentose and puberulent, becoming glabrous; heads globose, 4-11 mm in diameter with 10 to 25 flowers of which 5 to 12 are usually perfect. Flowers with pedicels to 10 mm long; calyx limb truncate or undulate; petals oblong, to 2.5 mm long; styles less than 1 mm long. Fruits subglobose, 5-8 mm in diameter, styles recurved and deciduous; seeds few.

GENERAL DISTRIBUTION: Cuba, Jamaica, Hispaniola, Mexico and Central America, South America.

Distribution in Lesser Antilles: Antigua, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada.

Common names: Candlewood, bastard braselleto, broad leaf balsam, figuier, figuier-aralie, aralie blanc, figuier tête.

Note: Decaisne & Planchon cited *Hedera capitata* Smith (Ic. Pict. Pl. Rar. **1:** *t. 4.* 1790) as the basis for their combination, who in turn cited Jacquin (1763) as the original authority.

Oreopanax dussii Krug & Urban ex Duss, Fl. Phan. Antill. Franç. 322. 1897.

Type: Guadeloupe, *Duss 2986* (lectotype, NY; isolectotype, GH! as the holotype at B was destroyed).

Tree to 14 m tall. Leaves with petioles stout, to 30 cm long, densely pale stellate-tomentose when young, becoming glabrate; blades suborbiculate, shallowly 5- to 7-lobed ca. 1/3 length of blade, to 30 cm in diameter, sinuses rounded, lobes oblong or deltoid, base cordate, apices of lobes acuminate, margins sinuate to entire, coriaceous, stellate-puberulent above, densely stellate-tomentose beneath, obscuring veins. Inflorescences few-branched, to 20 cm long and broad, branches and peduncles stellate-tomentose; staminate heads 5-6 mm in diameter, perfect flower heads 10-12 mm in diameter. Flowers with calyx 1.5 mm long, truncate or minutely 5-lobed; petals oblong, 2.5 mm long; filaments 4 mm long, anthers 1 mm long; styles 5, less than 1 mm long. Fruits obovoid-oblong, 4-5 mm long; seeds 2 or 3.

General distribution: Endemic to the Lesser Antilles.

Distribution in Lesser Antilles: Guadeloupe!, Dominica!, Martinique!.

Common name: Bois flot.

Oreopanax ramosissimus A. C. Smith, Brittonia **2:** 256. 1936.

Type: Martinique, *Perrottet s.n.* (holotype, GH!).

Tree. Leaves with petioles stout, to 50 cm long, closely ferrugineous-tomentose, becoming glabrous; blades suborbiculate, deeply 5- to 9-lobed for 1/2 to 3/4 length of blade, to 45 cm in diameter, base truncate or obtuse, sinuses rounded, lobes oblong to elliptic, 4-5 cm broad, narrowed toward base, apex acuminate, margin sinuate, veinlets prominent beneath, glabrous above, densely ferrugineous-stellate or -tomentose beneath. Inflorescences multi-branched, to 40 cm long and broad, all parts stellate-tomentose; perfect flower heads 5-6 mm in diameter. Flowers with calyx fleshy, 1 mm long; petals oblong-deltoid, 1 mm long; filaments 2 mm long, anthers less than 1 mm long; styles 5, slender. Fruits unknown.

General distribution: Known only from the type collection.

SCHEFFLERA Forster & Forster f.

Schefflera Forster & Forster f., Char. Gen. Pl. 23. 1776, nom. cons.

Syn.: *Sciadophyllum* P. Browne, Civ. Nat. Hist. Jamaica 190. 1756 (as "Sciodaphyllum"), nom. rejic. Type: Not designated.
Didymopanax Decne. & Planchon, Rev. Hort. sér. 4, **3:** 109. 1854. Type: *Panax morototoni* Aublet = *Didymopanax morototoni* (Aublet) Decne. & Planchon.

Shrubs or trees, variously pubescent or glabrous. Leaves palmately compound; petioles stout, ligule often conspicuous, coriaceous; blades radiate, diverse in size. Inflorescences terminal or lateral, paniculate with numerous umbellate flower clusters arranged in racemes. Flowers pedicellate with calyx obconic or cupuliform, denticulate; petals valvate, connate and calyptrate; stamens inflexed in bud; disk fleshy; styles 5 to 7. Fruits subglobose, fleshy, with persistent calyx lobes and style; seeds 5 to 7 or less.

TYPE: *Schefflera digitata* Forster & Forster f.

A genus of 650 or more species, widely distributed in warmer parts of the world.

NOTE: *Schefflera belangeri* (Marchal) Harms (basionym: *Sciadophyllum belangeri* Marchal) was based on Bélanger 127 from St. Pierre, Martinique. Charles Bélanger was the director of the ill-fated St. Pierre Botanical Garden, and this single collection was probably from a cultivated plant introduced from Asia. According to Dr. David Frodin it corresponds to *Schefflera venulosa* (Wight & Arn.) Harms var. *erythrostachys* Hook. f., but it deserves specific rank and a different name at that level in *Schefflera*, which he will publish.

KEY TO THE SPECIES

1. Leaf blades more than 3× as long as petiolules, oblong, more than 2× as long as broad.
    2. Leaflets usually 10 to 12, lower surface and inflorescences canescent or ferrugineous-pubescent . . . . *S. morototoni*
    2. Leaflets 3 to 7, blades and inflorescences glabrous . . . . *S. urbaniana*
1. Leaf blades only 2× as long as petiolules, ovate, less than 2× as long as broad . . . . *S. attenuata*

Schefflera attenuata (Sw.) Frodin, in press. FIGURE 4.

Basionym: *Panax attenuata* Sw., Prodr. 54. 1788; Fl. Ind. Occid. **1:** 562. 1797. Lectotype: *Swartz s.n.* (S).
Syn.: *Didymopanax attenuatus* (Sw.) Marchal *in* C. Martius, Fl. Bras. **11**(1): 234. 1878.

Small tree 2-13 m tall, with leaves and inflorescences aggregated at ends of branches, glabrous. Leaves with petioles 10-25 cm long, ligule 2-10 mm long; leaflets 4 to 7, petiolules 3-8 cm long; blades ovate, broadly ovate to almost deltoid or elliptic, 7-16 × 4-11 cm, base acute to truncate, apex caudate-acuminate, acumen slender, 1-5 cm long, margin undulate, coriaceous, often shiny. Inflorescences terminal or pseudolateral compound panicles with main axis of variable length to 20 cm, divided and spreading from base. Flowers 5 to 12 per umbel, white; pedicels to 5 mm long; buds often apiculate; petals ovate-deltoid, 1.5-2 mm long; styles 2 or 3. Fruits subglobose, flattened, 4 mm in diameter, black.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: White elder, aralie montagne, trompette à canon, trompette blanc, mapou blanc.

Schefflera morototoni (Aublet) Maguire, Steyerm. & Frodin, Mem. New York Bot. Gard. **38:** 51. 1984.

Basionym: *Panax morototoni* Aublet, Hist. Pl. Guiane **2:** 949. 1775.
Type: Guiana, *Aublet s.n.* (holotype, BM!; isotype, UPS-Thunberg!).
Syn.: *Panax chrysophyllum* M. Vahl, Eclog. Amer. **1:** 33, *t. 10.* 1797, nom. illegit. citing *Panax morototoni* Aublet.
Didymopanax chrysophyllus (M. Vahl) Decne. & Planchon, Rev. Hort. sér. 4, **3:** 109. 1854.
Didymopanax morototoni (Aublet) Decne. & Planchon, Rev. Hort. sér. 4, **3:** 109. 1854.

Tree to 15 m tall with leaves and inflorescences aggregated at ends of branches. Leaves with petioles to 1 m long, glabrous, ligule to 1 cm long; leaflets 10 to 12, petiolules to 14 cm long; blades oblong or obovate-oblong, to 45 × 19 cm, base rounded, apex acuminate, margin undulate, coriaceous, glabrous above, densely brownish canescent beneath. Inflorescences compound panicles, to 50 cm long; peduncles 10-15 mm long. Flowers 7 to 15 per umbel; petals 1.5-2 mm long; disk flat; styles distinct. Fruits transversely oblong, 4-6 mm long, sericeous or glabrate.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, Mexico, Central America, Trinidad, South America.

DISTRIBUTION IN LESSER ANTILLES: Known only from Guadeloupe.

COMMON NAMES: Bois flot, aralie-grandes-feuilles.

NOTES: This very conspicuous plant was probably introduced into Guadeloupe but has not spread. When Alexander Anderson reported in his Hortus that he brought a young plant from "the vast swamps of Guiana," the tree was then 40 feet high. Anderson did exchange plants with horticulturists in the French islands; the Guadeloupe plants may have been such an introduction. No subsequent collections have been made in St. Vincent.

Schefflera urbaniana (Marchal) Frodin, in press.

Basionym: *Didymopanax urbanianum* Marchal, Bot. Jahrb. Syst. **15:** 326. 1892.
Lectotype: Martinique, *Duss 186* (NY).

Tree to 20 m tall, glabrous throughout; branches more or less spreading, short. Leaves with petioles 10-20 cm, ligule inconspicuous; leaflets 3 to 7, petiolules 1-4.5 cm long; blades elliptic or oblong, 10-20 × 4-10 cm, base cuneate or rounded, apex short-acuminate, margin undulate, coriaceous. Inflorescences terminal, paniculate, to 12 cm long; branches ca. 12, extending from base. Flowers 4 to 12 per umbel; pedicels 1-3 mm long. Fruits subglobose, 3 mm in diameter, style persistent; seeds 2.

GENERAL DISTRIBUTION: Known only from Martinique.

COMMON NAME: Aralie.

CULTIVATED TAXA

Polyscias Forster & Forster f., Char. Gen. Pl. 63. 1776.

Syn.: *Nothopanax* Miq., Bonplandia **4:** 139. 1856. (Type: Not designated.)

Shrubs or trees, glabrous. Leaves with petioles sheathing at base, terete above; blades once or more pinnately compound or reduced to one leaflet with rachis articulated, margin entire, crenate, or dentate, without pellucid glands, usually aromatic when crushed. Inflorescences terminal or axillary, paniculate or with umbels paniculate. Flowers with articulate pedicels; calyx rim undulate or dentate; petals 4 or 5, valvate, free or coherent; stamens as many as petals; disk flat; ovary 2- to 5-locular; styles free, recurved. Fruits drupaceous, globose, calyx limb and style persistent; seeds few.

TYPE: *Polyscias pinnata* Forster & Forster f. = *Polyscias scutellaria* (Burman f.) Fosb.

A paleotropical genus of 100 species extending into the Pacific islands. Many species have been introduced into cultivation in the Lesser Antilles and persisted.

KEY TO THE SPECIES

1. Leaves once pinnate but sometimes unifoliate.
    2. Leaflets 1 to 5, blades broadly elliptic or orbiculate, usually 8-22 cm long and broad, base cordate, apex rounded, margin entire to coarsely crenulate . . . . (*P. balfouriana* (Sander ex André) L. Bailey) = *P. scutellaria* (Burman f.) Fosb.
    2. Leaflets 5 to 9 or sometimes many more.
        3. Blades usually elliptic to oblong, usually 6-12 × 4-8 cm, base and apex obtuse to acute, margin irregularly spinulose dentate . . . . *P. guilfoylei* (W. Bull) L. Bailey
        3. Blades narrowly lanceolate, 15-30 × 3-6 cm, tapering at base, apex long-attenuate, margin pinnatifid and sharp-toothed . . . . *P. filicifolia* (C. Moore ex E. Fourn.) L. Bailey
1. Leaves irregularly pinnate-compound, usually 2 or 3 times divided but rarely simply pinnate and with some leaflets pinnatifid or laciniate.

4. Leaflets variable in shape, some elliptic to oblong, marginal teeth usually 1-3 mm long................. *P. guilfoylei* cv. *laciniata* (Williams) L. Bailey
4. Leaflets usually lanceolate, 3 to 6 times as long as broad, marginal teeth irregular, some to 1 cm long............................. *P. fruticosa* (L.) Harms

Polyscias has been seen in cultivation as specimen plants in yards, as fence row plants persisting after cultivation, or as pot plants. *Polyscias filicifolia* occurs on Saba in a form with bright yellow foliage. Several others show degrees of variegation with white. Common names of angelica, couis, romarin, and petit romarin are applied to these plants. Herbarium specimens are few.

UMBELLIFERAE

UMBELLIFERAE A. L. Juss., Gen. Pl. 218. 1789.

Alternate name: **Apiaceae** Lindley, Intr. Nat. Syst. Bot. ed. 2, 21. 1836.

Herbs or shrubs with hollow stems. Leaves alternate, rarely opposite, with sheathing petioles and usually compound blades; exstipulate or less commonly stipulate. Inflorescences simple or compound umbels or heads (or flowers very rarely solitary). Flowers perfect or some staminate only; calyx adnate to ovary, teeth 5; petals 5, free; stamens 5, inflexed in bud, alternating with petals, inserted on epigynous disk, anthers longitudinally dehiscent; ovary inferior, 2-locular, ovules solitary in each locule, styles 2. Fruit a schizocarp of two mericarps united and separating by their faces, and often suspended from a carpophore, flattened dorsally and laterally, or subterete, each mericarp with 5 primary ribs, with or without oil tubes in intercostal spaces and on the commissure; seed 1.

TYPE: *Apium* L.

A family of about 300 genera and 3000 species of cosmopolitan distribution. A useful reference is M. E. Mathias & L. Constance, N. Amer. Fl. **28B:** 43-295. 1944.

KEY TO THE GENERA

1. Flowers sessile in involucrate heads; stem erect, dichotomously branched; leaves and bracts spinose-tipped or toothed.......................... *Eryngium*
1. Flowers pedicellate, in umbels.
    2. Prostrate herbs, rooting at nodes; fruits flattened laterally; leaves simple, peltate or epeltate.
        3. Involucre wanting or inconspicuous; leaves peltate, or epeltate, petioles not sheathing, stipulate; fruits without secondary ribs or reticulations; stylopodium present.. *Hydrocotyle*
        3. Involucre of 2 conspicuous, ovate to suborbiculate bracts; leaves epeltate, petioles sheathing, exstipulate; fruits with evident secondary ribs; stylopodium obsolete.. *Centella*
    2. Erect or ascending herbs; leaves compound.

4. Ovary and fruit with uncinate prickles; leaves pinnately decompound, ultimate divisions filiform or linear; flowers in compound umbels; cultivated, (Carrot; FIGURE 7) .... *Daucus carota* L.
4. Ovary and fruit unarmed, glabrous.
    5. Leaves heteromorphic, cauline leaves with filiform divisions, basal leaves of broader segments; outer flowers of umbels with petals enlarged and raylike; cultivated, (Coriander) .... *Coriandrum sativum* L.
    5. Leaves similar throughout; petals all similar.
        6. Petals white, obtuse; ultimate divisions of leaves filiform; annuals .... *Ciclospermum*
        6. Petals yellow with narrow inflexed apex, greenish white, or purple.
            7. Ultimate divisions of leaf filiform; involucre and involucel wanting.
                8. Fruits dorsally flattened, dorsal wings well-developed; petals yellow; annual plant with odor of dill or anise ... *Anethum*
                8. Fruits subterete or oblong, compressed or flattened, ribbed but not prominently winged.
                    9. Fruits subterete; petals greenish white; leaflets broad; cultivated, (Celery) .... *Apium graveolens* L.
                    9. Fruits slightly compressed laterally, ribs prominent; petals yellow; ultimate leaflets filiform .... *Foeniculum*
            7. Ultimate divisions of leaf ovate, dentate or lobed, rarely linear; involucel present.
                10. Flowers greenish white; leaves decompound, petioles green; linear bracteoles shorter than the flowers; cultivated, (Parsley) .... *Petroselinum crispum* (Miller) Nyman
                10. Flowers purple; leaves pinnate, petioles maroon; bracteoles longer than the flowers; cultivated for the edible root .... *Arracacia xanthorrhiza* Bancr.

ANETHUM L.

Anethum L., Sp. Pl. **1:** 263. 1753.

Slender, erect, glabrous herbs; roots with strong anise fragrance. Leaves with petioles sheathing; blades with filiform divisions. Inflorescences of loose compound umbels; peduncles longer than leaves; involucre and involucels wanting, rays numerous, spreading. Flowers greenish white; calyx teeth obsolete; petals suborbiculate with narrow, inflexed apex; styles short, reflexed, stylopodium conical. Fruits ovoid, dorsally flattened, glabrous, ribs narrowly winged, lateral broader than dorsal, carpophore 2-cleft to base.

LECTOTYPE: *Anethum graveolens* L.; vide A. S. Hitchcock & M. L. Green, Prop. Brit. Bot. 141. 1929.

Anethum graveolens L., Sp. Pl. **1:** 263. 1753. FIGURE 5.

Type: Not determined.

Slender annual to 1 m tall. Leaves with petioles 5-6 cm long; blades oblong to obovate in outline, 13-35 × 11-20 cm, pinnately decompound, ultimate segments filiform, 4-20 mm long and less than 0.5 mm wide, upper cauline

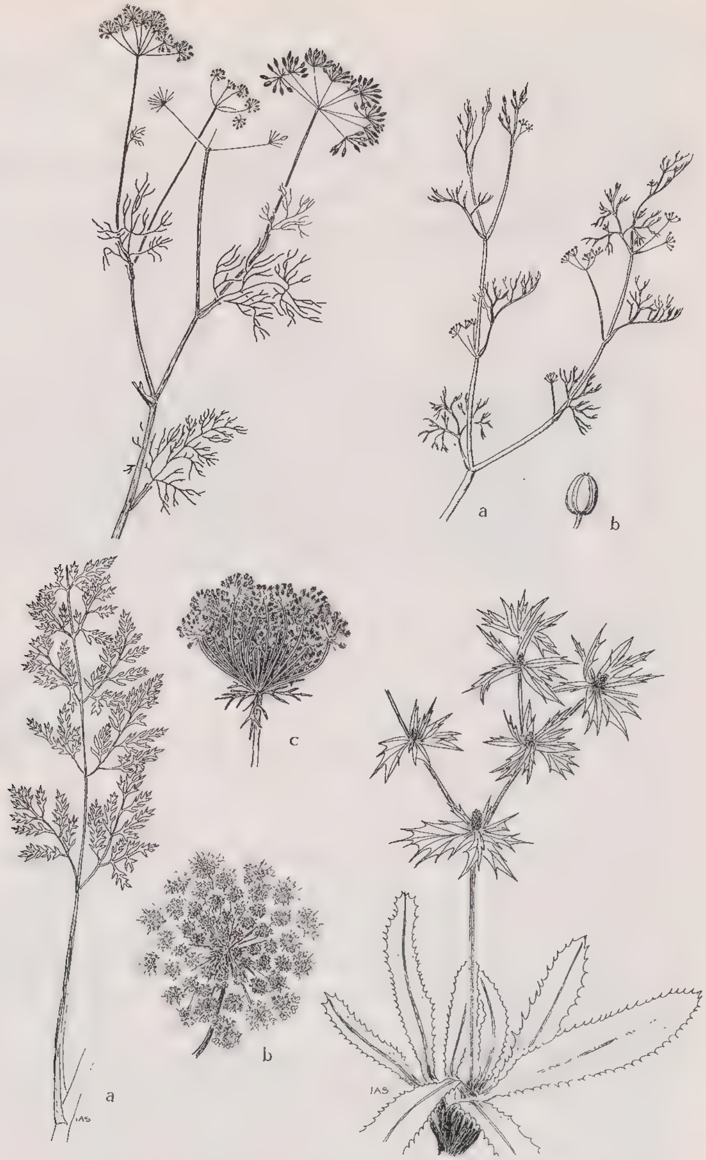


Figure 5 (upper left). *Anethum graveolens*: × 0.35. Figure 6 (upper right). *Ciclospermum leptophyllum*: a, flowering branch, × 0.35; b, fruit, × 0.35. Figure 7 (lower left). *Daucus carota*: a, leaf, × 0.35; b, dorsal view of inflorescence, × 0.35; c, lateral view of inflorescence, × 0.35. Figure 8 (lower right). *Eryngium foetidum*: × 0.35.

leaves greatly reduced. Panicles 7-16 cm long; rays 12 to 45, spreading, 3-10 cm long. Flowers with pedicels 6-10 mm long. Fruits 4 × 2 mm.

General distribution: Cultivated worldwide.

Distribution in Lesser Antilles: Anguilla!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Barbados!.

Common names: Dillweed, aniseed, lami dill, fenouil bâtard, anise.

CENTELLA L.

Centella L., Sp. Pl. ed. 2, **2:** 1393. 1763.

Herbaceous perennials with slender creeping rootstocks, rooting at nodes. Leaves with petioles sheathing at base; blades simple, orbiculate, entire or lobed; exstipulate. Inflorescences axillary, umbellate; involucre of 2 conspicuous bracts. Flowers with pedicels slender to obsolete; calyx teeth obsolete; petals orbiculate, white to red; styles short, stylopodium obsolete. Fruits orbicular to ellipsoid, reniform, constricted at commissure and flattened laterally, glabrous, primary ribs prominent, secondary ribs filiform, reticulations evident, carpophore entire.

Lectotype: *Centella villosa* L.; vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed. 2, **2:** 651. 1913.

A genus of 20 species, mostly African, with the following species nearly pantropical and subtropical.

Centella erecta (L. f.) Fern., Rhodora **42:** 295. 1940. Figure 9.

Basionym: *Hydrocotyle erecta* L. f., Suppl. Pl. 177. 1782.
Type: Jamaica, no collector cited.

Prostrate stems to 50 cm long. Leaves aggregated on short shoots; petioles 0.3-5 cm long, with apical tuft of hairs; blades ovate-cordate to oblong, 0.5-2 × 0.8-3 cm, base and apex obtuse, margin entire or repand-dentate. Inflorescences axillary; peduncles 1-11 cm long; involucral bracts ovate to suborbiculate, 2-3 mm long. Flowers white, 2 to 5 per inflorescence; pedicels 0.5-1 mm long; ovary flattened laterally, glabrous, styles filiform, divaricate. Fruits ellipsoidal, 3-4 × 3-5 mm.

General distribution: Florida, Central America, West Indies.

Distribution in Lesser Antilles: Guadeloupe!, Dominica!, Martinique!.

Common names: Veronique, herbe à poux, zebe pou-bois.

Note: This is apparently a hexaploid member of the widely distributed *C. asiatica* polyploid complex.

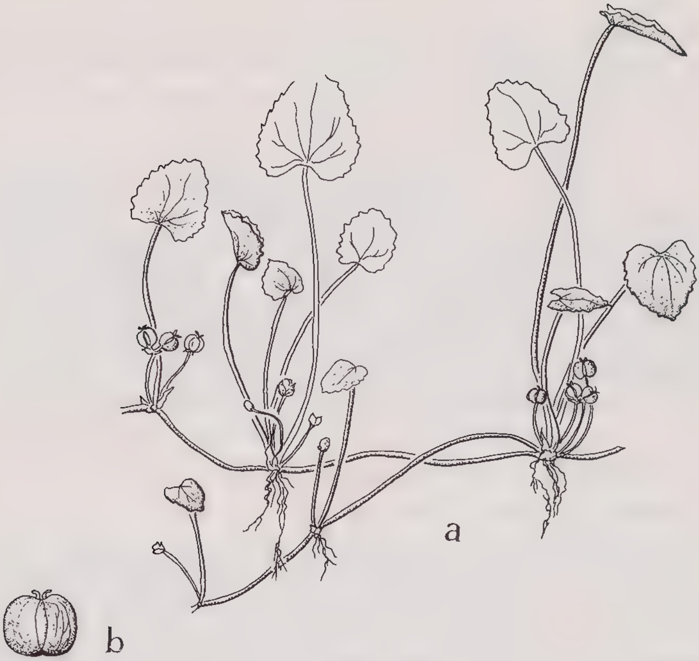


FIGURE 9. *Centella erecta*: a, habit, × 0.6; b, fruit, × 0.6.

CICLOSPERMUM Lagasca

Ciclospermum Lagasca, Amen. Nat. Espan. **1**(2): 101. 1821.

Annual, branching, erect or spreading herbs, glabrous. Leaves with petioles sheathing; blades pinnately decompound, with mostly linear to filiform divisions. Inflorescences loosely compound, and some often simple, umbels; involucre wanting, involucel wanting; rays few, spreading. Flowers white or greenish white with spreading pedicels; calyx teeth minute; petals ovate, without inflexed apex; styles very short, stylopodium short-conic. Fruits orbicular to ovoid, compressed laterally, glabrous (rarely hispidulous), ribs filiform, often corky, subequal, evident, carpophore bifid at apex.

TYPE: *Ciclospermum leptophyllum* (Pers.) Sprague.

A genus of 3 or more species of South America, one of them a circumtropical weed.

Ciclospermum leptophyllum (Pers.) Sprague, J. Bot. **61:** 131. 1923.
FIGURE 6.

Basionym: *Pimpinella leptophylla* Pers., Syn. Pl. **1:** 324. 1805.
Type: "Ins. St. Dominica," possibly *Poiteau s.n.* (?holotype, P-JU #10166; IDC 6206. 752: I. 5, photo!).
Syn: *Apium leptophyllum* (Pers.) F. Muell. *in* Bentham & F. Muell., Fl. Austral. **3:** 372. 1867.

Annual herb to 60 cm tall. Leaves with petioles 2.5-11 cm long, sheath scarious-margined; blades oblong-ovate in outline, 3.5-10 × 3.5-8 cm, 3- to 4-pinnately decompound, leaflets linear to filiform, 1.5-7 × 0.5-1 mm; cauline leaves ternately pinnately decompound. Umbels simple or compound, sessile or with peduncles to 2 cm long; rays 3 to 5, 1-2.2 cm long. Flowers with pedicels 2-8 mm long; calyx teeth inconspicuous; petals white; ovary ovoid, glabrous. Fruits ovoid, 1.2-3 × 1.5-2 mm; carpophore 2-cleft.

GENERAL DISTRIBUTION: Subtropical weed worldwide.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, Barbados!.

ERYNGIUM L.

Eryngium L., Sp. Pl. **1:** 232. 1753.

Herbs with basal leaves forming rosettes. Leaves with petioles sheathing; blades elongate, dentate or dissected with sinulose teeth, rarely entire. Inflorescences cymosely or dichotomously branched, of bracteate heads; bracts linear to ovate-lanceolate. Flowers sessile, small; calyx teeth rigid, pointed; petals ovate to oblong, white or blue; disk evident; stylopodium absent. Fruits globose, scaly or tuberculate, somewhat flattened laterally, carpels nearly terete, ribs obsolete, oil tubes 5.

LECTOTYPE: *Eryngium maritimum* L.; vide A. S. Hitchcock, & M. L. Green, Prop. Brit. Bot. 138. 1929.

A cosmopolitan genus of 230 species of tropical and temperate areas, excluding South Africa and East Asia.

Eryngium foetidum L., Sp. Pl. **1:** 232. 1753. FIGURE 8.

Type: Not determined.

Biennial herb to 40 cm tall, tap root developed, stems divaricately branched in flower. Basal leaves oblanceolate, 10-30 × 3-4 cm, base narrowed, apex obtuse, margin dentate-spinulose, rarely dissected or entire, strongly coriander-scented, glabrous. Inflorescences cylindrical, to 1.5 cm long, subtended by whorl of 5 to 6 unequal, linear to lanceolate bracts, 1-3 cm long. Flowers with calyx lobes 0.5-1 mm long; petals oblanceolate or clawed, 0.6-0.7 mm long, white; ovary ovoid, styles short, filiform, divaricate. Fruits ovoid, to 2 mm long, scaly or papillose.

GENERAL DISTRIBUTION: Circumtropical weed or culinary herb.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua!, Saba!, St. Kitts, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Blessed thistle, chardor béni, herbe à fler, herbe puante, chadon benni, culantro, celantro.

FOENICULUM Miller

Foeniculum Miller, Gard. Dict. abr. ed. 4. 1754.

Biennial or perennial herbs, slender, branched, glabrous. Leaves with petioles sheathing; blades pinnately decompound, ultimate divisions filiform with strong odor of anise. Inflorescences of loose compound umbels; involucre and involucels wanting; rays numerous. Flowers with pedicels spreading; calyx teeth obsolete; petals obovate with narrow, inflexed apex, yellow; styles short, recurved, stylopodium conic. Fruits oblong, slightly compressed laterally, glabrous, ribs prominent, acute or obtuse, oil tubes solitary in intervals, 2 on the commissure, carpophore 2-cleft to base.

LECTOTYPE: *Anethum foeniculum* L. = *Foeniculum vulgare* Miller.

A genus of five species of Europe and the Mediterranean area.

Foeniculum vulgare Miller, Gard. Dict. ed. 8. 1768. FIGURE 10.

Basionym: *Anethum foeniculum* L., Sp. Pl. **1:** 263. 1753.
Type: Not determined.

Stout herbs to over 1 m tall. Leaves with petioles 7-14 cm long; blades ovate to deltoid in outline, 30 × 40 cm, ultimate divisions 0.4-4 × 0.5 mm. Inflorescences with peduncles 1.5-6.5 cm long; rays 15 to 40, spreading somewhat unequally. Flowers with pedicels several, 2-10 mm long. Fruits oblong, 3.5-4 × 1.5-2 mm, ribs acute.

GENERAL DISTRIBUTION: Cultivated worldwide and persisting.

DISTRIBUTION IN LESSER ANTILLES: St. Barts, Guadeloupe!, Martinique!, St. Vincent!, Barbados!.

COMMON NAMES: Fennel, anis.

HYDROCOTYLE L.

Hydrocotyle L., Sp. Pl. **1:** 234. 1753.

Herbaceous perennials from creeping stems, rooting at nodes, glabrous or pubescent. Leaves with petioles non-sheathing; blades epeltate or peltate, entire or divided; stipulate. Inflorescences axillary umbels or interrupted spikes, short to exceeding the leaves; involucre present or wanting. Flowers with pedicels spreading or reflexed; calyx teeth minute or wanting; petals ovate, white, greenish, yellow, or purplish; stylopodium conic or depressed.

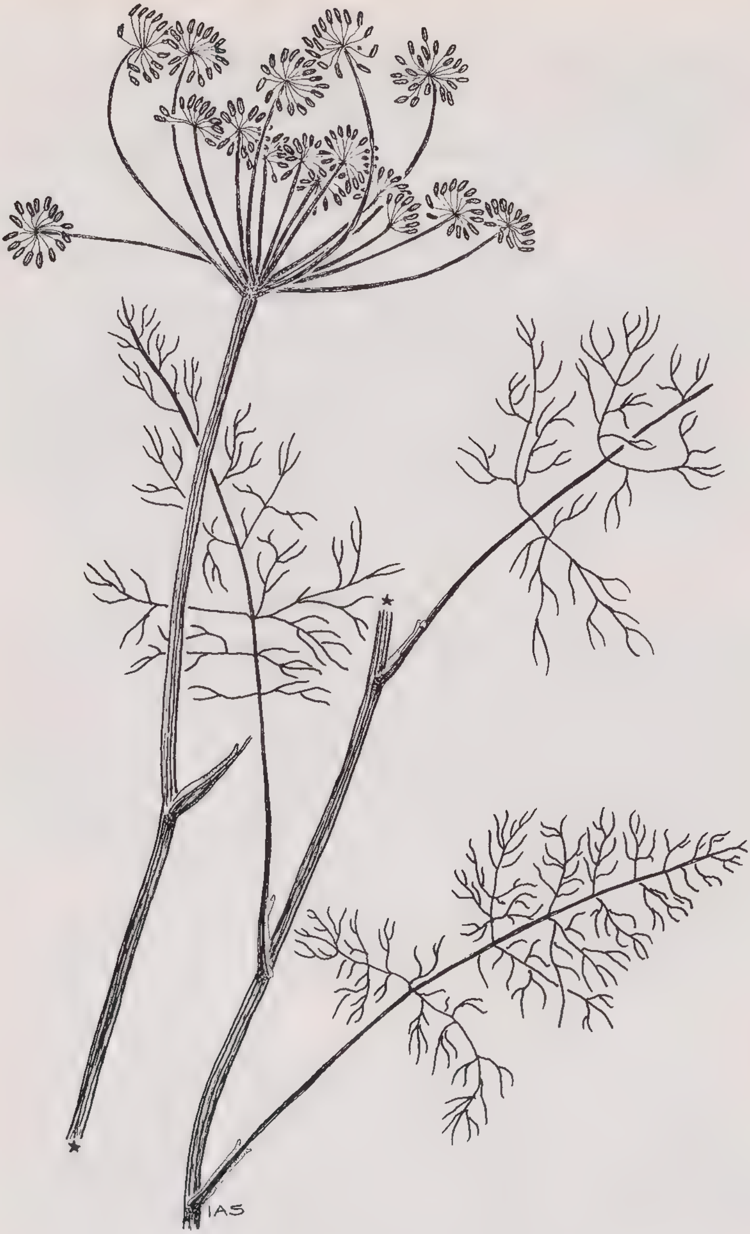


FIGURE 10. *Foeniculum vulgare*: × 0.65.

Fruits orbicular or ellipsoid, strongly flattened laterally, dorsal surface rounded or acute, dorsal ribs acute or obsolete, lateral ribs conspicuous, slender.

LECTOTYPE: *Hydrocotyle vulgaris* L.; vide A. S. Hitchcock, Prop. Brit. Bot. 138. 1929.

A genus of 100 species of temperate and tropical areas. For additional information see H. Eichler, Feddes Repert. **98:** 1-51, 145-196, 273-351. 1987.

KEY TO THE SPECIES

1. Leaves epeltate, lobed, glabrous .... *H. sibthorpioides*
1. Leaves peltate.
    2. Inflorescence a series of interrupted spikes, usually bifurcate .... *H. verticillata*
    2. Inflorescence a simple umbel, not proliferous .... *H. umbellata*

Hydrocotyle sibthorpioides Lam., Encycl. **3:** 153. 1789.

Type: Mauritius, *Sonnerat s.n.* (holotype, P-LA; IDC 6207. 264: II. 2, photo!).
Syn.: *Hydrocotyle rotundifolia* Roxb., Fl. Ind. ed. 1832, **2:** 88. 1832.

Creeping stems filiform. Leaves with petioles 0.5-2 cm long, glabrous; blades suborbiculate, epeltate, 5-10 mm in diameter, shallowly 5- to 7-lobed, lobes obtuse, margin crenate, glabrous above, scattered pubescence beneath. Inflorescences 3- to 8-flowered umbels, not proliferous, with peduncles filiform, 5-20 mm long. Flowers with sepals minute; petals greenish white; styles persistent, stylopodium depressed-conic. Fruits orbicular in outline, 1-1.5 mm in diameter, glabrous, dorsal and lateral ribs evident, blunt.

GENERAL DISTRIBUTION: Widespread in tropical Asia, introduced and sporadic in the New World.

DISTRIBUTION IN LESSER ANTILLES: Collected once on Dominica near the porch of an estate house.

Hydrocotyle umbellata L., Sp. Pl. **1:** 234. 1753.

Type: Virginia, *Clayton 429* (BM?).

Creeping stems slender to somewhat fleshy. Leaves with petioles 5-40 cm long, glabrous; blades peltate, 0.5-7.5 cm in diameter, margin crenate or crenately lobed, glabrous. Inflorescences simple, many-flowered umbels with peduncles often exceeding the leaves, 1.5-35 cm long, glabrous. Flowers with pedicels 2-25 mm long; stylopodium depressed. Fruits orbicular to ellipsoidal in outline, 1-2 × 2-3 mm, dorsal surface acute, dorsal and lateral ribs evident, obtuse.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica.

COMMON NAMES: Herbe à pou de bois, zèbe pou-bois.

Hydrocotyle verticillata Thunb., Hydrocotyle 2. 1798. FIGURE 11.

Type: Locality not given by Thunberg.

Creeping stems filiform. Leaves with petioles 0.5-26 cm long; blades orbiculate-peltate, 5-60 mm in diameter, shallowly 8- to 13-lobed, the lobes crenate. Inflorescences axillary, simple or interrupted, once- or twice-bifurcate spikes, 1.5-17 cm long with 2- to 7-flowered verticels. Flowers subsessile; involucre of a few inconspicuous, lanceolate bracts. Fruits ellipsoid, 1-3 × 2-4 mm, dorsal surface acute, narrowly rounded to cuneate at base, oblong in cross section, dorsal and lateral ribs distinct.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Dominica, Martinique, St. Lucia!.

COMMON NAMES: Herbe-mare, Barbados hearth.

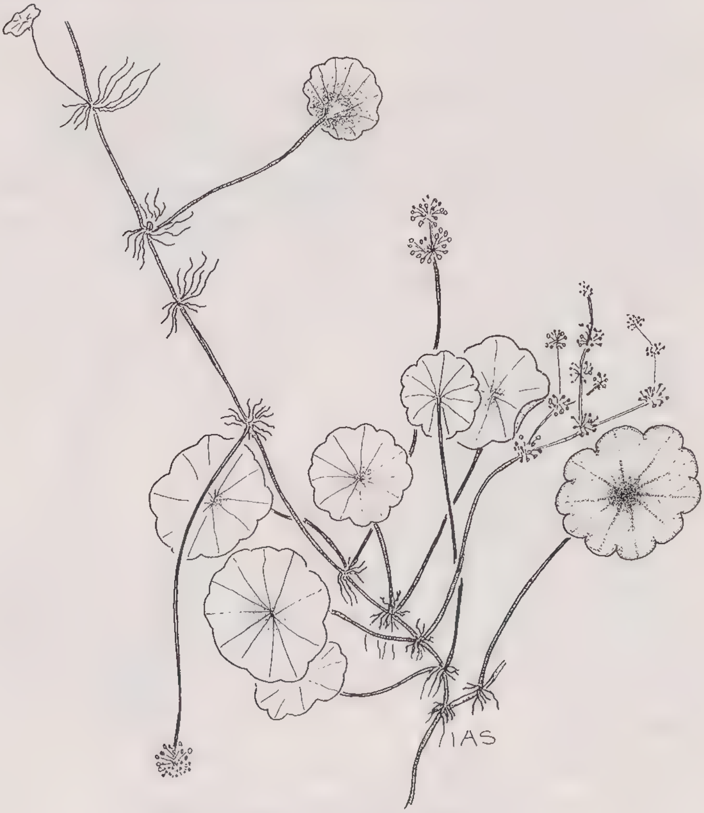


FIGURE 11. *Hydrocotyle verticillata*: × 0.7.

ERICACEAE

by Allan J. Bornstein

ERICACEAE A. L. Juss., Gen. Pl. 159. 1789 ('Ericae').

Trees or shrubs, rarely herbs, usually of acid soils and with mycorrhizal associations. Leaves alternate or occasionally opposite or whorled; blades simple, entire to serrate, often coriaceous and persistent; exstipulate. Inflorescences terminal or axillary racemes, panicles, or corymbs, less often the flowers solitary. Flowers regular or slightly irregular, perfect (rarely functionally unisexual, the plants then dioecious); pedicel usually bibracteolate; sepals 4 to 7, free or basally connate, the lobes valvate or imbricate; petals 4 to 7, occasionally free but most often connate to form a campanulate, funnelform, tubular-cylindric, or urceolate corolla, the lobes imbricate or convolute; stamens usually twice as many as petals, inserted on variously lobed intrastaminal disk or epipetalous, filaments distinct, anthers dorsifixed, bithecate, becoming inverted during development, dehiscent from base (the apparent apex) via pores or longitudinal slits, often with appendages; gynoecium syncarpous, ovary superior to inferior, usually with as many locules as carpels, each locule multiovulate, placentation axile, style simple, hollow, fluted within, stigma usually capitate. Fruit a septicidal or loculicidal capsule, berry, or drupe; seeds usually small, occasionally winged, with fleshy endosperm.

TYPE: *Erica* L.

A family of ca. 125 genera and 3500 species if one excludes the Pyrolaceae and Monotropaceae. Semicosmopolitan in temperate to subtropical regions, especially in acid soils; extending into the tropics at high elevations. For additional information see C. E. Wood, J. Arnold Arbor. **42:** 10-80. 1961, and P. F. Stevens, J. Linn. Soc. Bot. **64:** 1-53. 1971.

KEY TO THE GENERA

1. Ovary superior; fruit a capsule .... *Gaultheria*
1. Ovary inferior; fruit a berry.
    2. Fruits strongly 4- or 5-ribbed; flowers red (rarely white elsewhere); filaments glabrous, shorter than the anthers; anther tubules longer than the thecae .... *Gonocalyx*
    2. Fruits smooth, not ribbed; flowers greenish-white or white; filaments pubescent (at least distally), longer than or equal in length to the anthers; anther tubules shorter or equal in length to the thecae.
        3. Racemes terminal or in uppermost axils; flowers greenish-white; bracts caducous; flowers 5- or 6-merous .... *Symphysia*
        3. Racemes axillary; flowers white; bracts persistent; flowers 4- or 5-merous .... *Vaccinium*

GAULTHERIA L.

Gaultheria L., Sp. Pl. **1:** 395. 1753.

Small, often prostrate, evergreen shrubs. Leaves alternate, short-petiolate; blades entire to more often serrulate or serrate, coriaceous. Inflorescences axillary or terminal racemes or panicles. Flowers regular, perfect; calyx 5-merous,thickened and fleshy in fruit; corolla 5-merous, white to crimson, campanulate to urceolate, glabrous or pubescent; stamens 10, inserted at base of corolla, filaments longer than anthers, glabrous or pubescent, anthers dehiscent by terminal pores or rarely longitudinal slits, with awns; disk 10-lobed; ovary superior (or half-inferior elsewhere), 5-locular, stigma obtuse or truncate. Fruit a 5-valved loculicidal capsule enclosed by accrescent calyx, appearing berrylike; seeds numerous, small, wingless.

TYPE: *Gaultheria procumbens* L.

A genus of perhaps 150 to 200 species, principally of the cool temperate regions (North America, East Asia), but extending southward at higher elevations in both the Old and New World tropics.

Gaultheria domingensis Urban, Symb. Antill. **3:** 329. 1902. FIGURE 12.

Syntypes: Haiti, "in montibus Furcy," *Christ 1675, Picarda 269 & 1039* (B, presumably destroyed); Santo Domingo, "in Valle nuevo inter saxa," 2270 m, *Eggers 2198* (B, presumably destroyed; BM, photo at A!).

Syn.: *Brossaea coccinea* L., Sp. Pl. **2:** 1190. 1753. (Type: Plum., Nov. Pl. Amer. 5, *t. 17.* 1703.)

Epigaea cordifolia Sw., Prodr. 73. 1788; Fl. Ind. Occid. **2:** 842. 1798. (Type: Guadeloupe, *de Ponthieu s.n.* (holotype, BM; photo at A!?).)

Gaultheria sphagnicola Rich., Actes Soc. Hist. Nat. Paris **1:** 109. 1792, nom. illegit. for *Epigaea cordifolia* Sw.

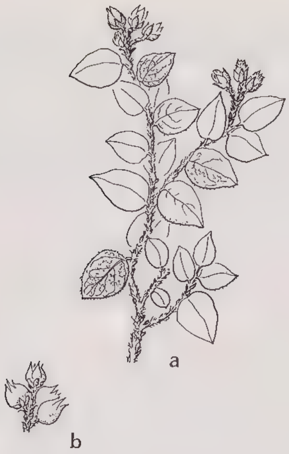
Gaultheria cordifolia Raeusch., Nomencl. Bot. ed. **3:** 124. 1797, nom. nud.

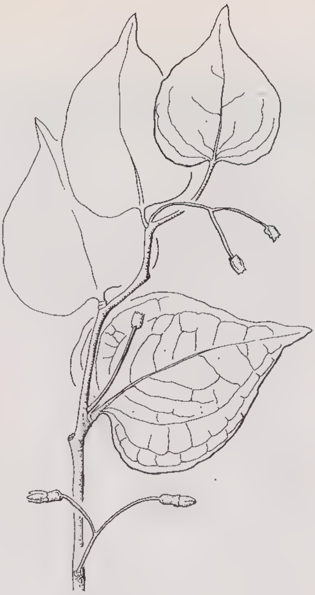
Brossaea anastomosans Griseb., Fl. Brit. W. Indian Is. 142. 1859, nom. illegit. citing *Epigaea cordifolia* Sw., not *Gaultheria anastomosans* (L.) Kunth (1819).

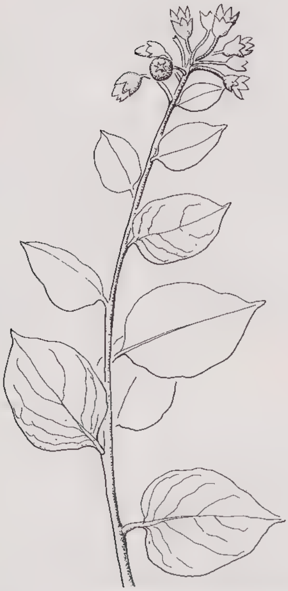
Gaultheria coccinea (L.) Urban, Symb. Antill. **3:** 330. 1902, not *Gaultheria coccinea* Kunth (1819).

Gaultheria swartzii R. Howard, J. Arnold Arbor. **56:** 240, 241. 1975, nom. nov. for *Epigaea cordifolia* Sw.

Low, multi-branched, rhizomatous shrub to 50+ cm tall; branches red-hirsute. Leaves with petioles 1-3 mm long, hirsute; blades ovate to suborbiculate, 0.6-4(-5.8) × 0.6-2.4(-3.4) cm, base rounded to subcordate, apex mucronulate, margin entire to serrulate, often thickened and slightly revolute, penninerved, hirsute on both surfaces. Inflorescences few- to many-flowered bracteate racemes or panicles, in upper axils or terminal, to 4 cm long; rachis and branches red-hirsute; bracts ovate-lanceolate, navicular, 4-8 mm long, red, ciliate. Flowers with pedicels 4-9 mm long, red-hirsute, with 2 lanceolate bracteoles borne at or below middle; calyx 5-7 mm long, basally connate, the sepals ovate-lanceolate to deltate, acuminate, deep pinkish red, ciliate; corolla urceolate, 5-6.5 mm long, the lobes ≤ 1 mm long, crimson,







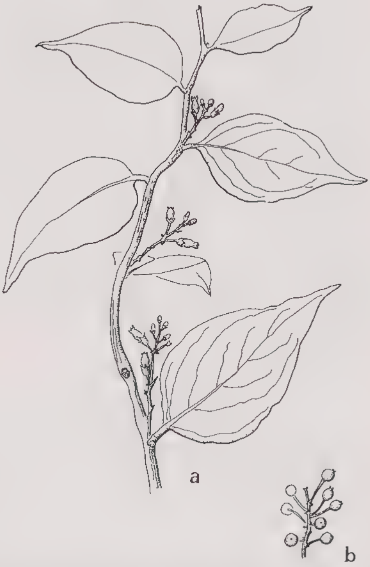


FIGURE 12 (upper left). *Gaultheria domingensis*: a, flowering branch, × 0.4; b, fruit, × 0.4. FIGURE 13 (upper right). *Gonocalyx smilacifolius*: × 0.4. FIGURE 14 (lower left). *Symphysia racemosa*: × 0.4. Figure 15 (lower right). *Vaccinium latifolium*: a, flowering branch, × 0.4; b, fruit, × 0.4.

glabrous (or nearly so) to more commonly pubescent to densely pubescent from near middle to apex; stamens with filaments flattened, 4-5 mm long, abaxially and marginally pubescent, anthers 1-1.5 mm long, dehiscent their entire length by longitudinal slits, each theca with short, bifurcate awn; ovary distinctly 5-lobed, often apically puberulent to pubescent, style ca. 4 mm long, stigma truncate. Fruit at maturity surrounded by somewhat thickened, fleshy calyx, ± globose, 6-9 mm long, purple-black, glabrous; seeds angular-ovoid, ca. 0.5 mm long, pale brown, testa areolate.

GENERAL DISTRIBUTION: Hispaniola and the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, and perhaps to be expected on Dominica.

COMMON NAMES: Myrtille, myrtille des hauts.

NOTES: There is some debate as to whether *Gaultheria swartzii* should be considered as a distinct species from *G. domingensis.* Howard (1975 and pers. comm.) considers them distinct on the basis of the serrulate leaves in the former vs. the more or less entire, often revolute margins in the latter. However, I have observed a few collections from Hispaniola with some serrulations on the leaf margins that approach those found in the Lesser Antilles. Overall, I am more impressed by the numerous similarities between these two taxa as opposed to the few, apparently continuous variations, and therefore I am in agreement with Hersey & Vander Kloet (Canad. J. Bot. **54:** 2465-2472. 1976) in considering them as one species. At best, they should perhaps be recognized as varieties of *G. domingensis.*

Gaultheria buxifolia Willd. and *G. anastomosans* (L.) Kunth have often been cited as synonyms of *G. sphagnicola* (= *G. swartzii*). We follow Hersey and Vander Kloet (loc. cit.) in considering these South American species as distinct taxa.

The holotype of *Epigaea cordifolia* is a de Ponthieu specimen, which according to Swartz should be at BM (species marked with an * in the Prodromus). There is a collection so labeled at BM, but it is not at all clear that it is a de Ponthieu collection, hence the question mark after the type citation of this taxon.

GONOCALYX Planchon & Linden

Gonocalyx Planchon & Linden, Cat. Pl. Exot. **10:** 5, 6. 1855.

Small epiphytic shrubs, sometimes scandent or vinelike. Leaves alternate, short-petiolate; blades entire, coriaceous. Inflorescences axillary, few-flowered racemes, or the flowers solitary or paired. Flowers regular, perfect; calyx conspicuously connate with 4 or 5 lobes, the calyx tube (hypanthium) usually ribbed; corolla 4- or 5-merous, campanulate to tubular-cylindric, red or rarely white elsewhere, glabrous or puberulent; stamens 8 or more often 10, adnate to base of corolla, filaments shorter than anthers, glabrous, anther thecae with protracted apical tubules, dehiscent by subterminal pores or longitudinal slits; disk 10-lobed; ovary inferior, 4- or 5-locular, stigma usually truncate. Fruit a berry, typically 4- or 5-ribbed; seeds numerous, small, wingless.

TYPE: *Gonocalyx pulcher* Planchon & Linden.

A genus of 8 species restricted to the West Indies (Dominican Republic, Puerto Rico, and the Lesser Antilles), Costa Rica, and Colombia. For additional information see L. I. Nevling, J. Arnold Arbor. **51:** 221-227. 1970, and J. L. Luteyn, Brittonia **28:** 37-41. 1976. The former reference contains important information concerning the date of publication of the generic name as cited above (which differs from that listed in the ING), while the latter includes a key to 7 of the 8 species.

Gonocalyx smilacifolius (Griseb.) A. C. Smith, Contr. U.S. Natl. Herb. **28:** 354. 1932. FIGURE 13.

Basionym: *Vaccinium smilacifolium* Griseb., Fl. Brit. W. Indian Is. 144. 1860.
Type: Dominica, Coulabion Mountains, *Imray s.n.* (holotype, GOET!; isotypes, GH!, K!).
Syn.: *Hornemannia smilacifolia* (Griseb.) Hook. f. *in* Benth. & Hook. f., Gen. Pl. **2:** 567. 1876.
Ceratostema smilacifolium (Griseb.) Hoer., Bot. Jahrb. Syst. **42:** 276. 1909.

Epiphytic shrub of unknown dimensions, commonly lianous; branches ash-gray, glabrous. Leaves with petioles 4-9 mm long, stout, glabrous; blades ovate to broadly ovate or ovate-lanceolate, 3.6-13.5 × 2.1-9.5 cm, base rounded or subcuneate, to truncate or cordate, apex acuminate or abruptly so, margin slightly revolute, palmatinerved from or near to base, glabrous. Inflorescences few-flowered racemes to 5.5 cm long; axes slender, ca. 0.5 mm thick, red, glabrous; bracts triangular, often narrowly so, ca. 1-1.5 mm long, distally ciliate. Flowers red, with pedicels 2-2.9 cm long, distally thickened, red, glabrous, bibracteolate near base; calyx tube subcylindric, 3-4 mm long, 5-winged along sinuses, the limb 1.5-2 mm long, erect, including apiculate lobes 0.5 mm long, sometimes faintly ciliate along margin; corolla tubular-cylindric, 6-8 mm long, divisible into an inner and outer layer, the latter divided lengthwise for ca. 4-5 mm, the former for only 1-1.5 mm, glabrous; stamens with filaments 1.5-2 mm long, anther thecae 1.5-2 mm long, granular, with basal apiculum < 0.5 mm long and apical tubules 2.5-3.5 mm long, glabrous, dehiscent by oblique pores; ovary with style 6-7 mm long, stigma truncate or obtuse. Fruits 5-ribbed, obprismatic, 5-7 mm long, apex truncate, surpassed by persistent calyx limb, green becoming purple-black, glabrous; seeds obovoid-truncate, ca. 1.5 mm long.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!.

SYMPHYSIA C. Presl

Symphysia C. Presl, *Symphysia* 1827.

Syn.: *Hornemannia* M. Vahl, Skr. Naturhist.-Selsk. **6:** 120. 1810, non Willd. (1809). (Type: *Hornemannia racemosa* M. Vahl = *Symphysia racemosa* (M. Vahl) Stearn.)

Tauschia Preissler, Flora **11:** 44. 1828, nom. rejic. vs. *Tauschia* Schldl. (1835), nom. cons. (Type: *Tauschia hederaefolia* Preissler = *Symphysia racemosa* (M. Vahl) Stearn.)

Andreusia Dunal ex Meissner, Pl. Vasc. Gen. tab. diagn. 243. 1839, non Vent. (1805). (Type: *Vaccinium guadelupensis* Sw. ex Wikström = *Andreusia guadelupensis* (Sw. ex Wikström) Meissner = *Symphysia racemosa* (M. Vahl) Stearn.)

Scrambling or vinelike shrubs, occasionally epiphytic. Leaves alternate; blades entire, coriaceous. Inflorescences terminal or in uppermost leaf axils, racemose. Flowers regular, perfect; calyx conspicuously connate with 5 or 6 lobes, the calyx tube (hypanthium) smooth, not ribbed; corolla 5- or 6-merous, campanulate, greenish-white, glabrous or floccose within; stamens 10 or 12, adnate to base of corolla, filaments longer than anthers, pubescent distally or throughout, anther thecae with apical tubules, dehiscent by terminal pores; disk annular; ovary inferior, 5- or 6-locular, stigma truncate, obscurely lobed. Fruit a berry, coriaceous, not fleshy, surmounted by persistent calyx limb; seeds numerous, small, wingless.

TYPE: *Symphysia martinicensis* C. Presl = *Symphysia racemosa* (M. Vahl) Stearn.

A genus of 2 species, one native to the West Indies, the other to Panama. For additional information see A. C. Smith, Amer. J. Bot. **22:** 9-11. 1935, and W. T. Stearn, Taxon **21:** 105-111. 1972.

NOTES: Luteyn and Wilbur (Brittonia **29:** 275-276. 1977) consider *Symphysia* to be synonymous with *Vaccinium*, and have made the appropriate combinations in that genus. However, they readily admit that this action may be premature, and therefore we have chosen to recognize *Symphysia* as a distinct genus until the taxonomy of *Vaccinium* can be more fully worked out.

The generic name *Andreusia* is often attributed to Dunal ex DC. (Prodr. **7:** 560. 1839). However, the name was actually first published by Meissner earlier that same year (August vs. December).

Symphysia racemosa (M. Vahl) Stearn, Taxon **21:** 111. 1972. FIGURE 14.

Basionym: *Hornemannia racemosa* M. Vahl, Skr. Naturhist.-Selsk. **6:** 121. 1810.

Type: Guadeloupe, Mt. Soufrière, *L. C. Richard s.n.* (holotype, P; isotype, C, photos at A!, GH!).

Syn.: *Symphysia martinicensis* C. Presl, *Symphysia* 1827. (Type: Martinique, *Kohaut s.n.* (= Sieber, Fl. Martin. suppl. 38), (B, presumably destroyed, G, K, NY).)

Vaccinium guadelupensis Sw. ex Wikström, Kongl. Ventensk. Acad. Handl. **1827:** 63. 1827. (Type: Guadeloupe, *Forsström s.n.* (holotype, S).)

Tauschia hederaefolia Preissler, Flora **11:** 44. 1828, nom. illegit. with same type as *Symphysia martinicensis* C. Presl.

Andreusia guadelupensis (Sw. ex Wikström) Meissner, Pl. Vasc. Gen. comm. 152. 1839.

Vaccinium imrayi Hook., Icon. Pl. **3:** pl. 292. 1840. (Type: Dominica, *Imray 147* (holotype, K).)

Symphysia guadelupensis (Sw. ex Wikström) Klotzsch, Linnaea **24:** 37. 1851.

Hornemannia martinicensis (C. Presl) Hook. f. *in* Benth. & Hook. f., Gen. Pl. **2:** 567. 1876.

Thibaudia krugii Urban & Hoer. *in* Urban, Symb. Antill. **5:** 454. 1908. (Type: Puerto Rico, Mt. Yunque, *Sintenis 1448* (holotype, B, presumably destroyed; isotype, GH!).)

Hornemannia hederaefolia (Preissler) Hoer., Bot. Jahrb. Syst. **42:** 257. 1909.

Thibaudia domingensis Urban, Symb. Antill. **7:** 319. 1912. (Type: Dominican Republic, Barahona Prov., *Fuertes 1467* (holotype, B, presumably destroyed; isotype, NY).)

Hornemannia alainii Acuña & Roíg, Contrib. Ocas. Mus. Hist. Nat. Colegio "De La Salle" **15:** 4. 1956. (Type: Cuba, Oriente Prov. prope Baracoa, ad Pico Galano, Toa, 1 Jan. 1954, *Alain 3772* (holotype, HAC, including LS; isotype, NY).)

Vaccinium racemosum (M. Vahl) Wilbur & Luteyn, Brittonia **29:** 275. 1977.

Scrambling shrub or liana with pendant branches, epiphytic or terrestrial, to 4 m tall; branches violaceous to reddish-brown. Leaves with petioles 2-10 mm long, stout, glabrous; blades lance-elliptic to lance-ovate to broadly ovate, 2.2-13.2 × 1-7 cm, base rounded to cuneate, apex acute to acuminate, often abruptly so, margin entire or very rarely obscurely crenate, plinerved with veins arising within lower half, glabrous. Inflorescences 10- to 30-flowered, to 10 cm long; axes stout, 1-2 mm thick, glabrous; bracts lanceolate to lance-ovate, 2-3 mm long, serrulate, caducous. Flowers greenish-white, with pedicels 1-2.5 cm long, flared distally into a rimlike collar with several lobes; bracteoles 2, borne near base of pedicel, serrulate; calyx campanulate, to 7 mm long including limb, the lobes ovate to depressed-ovate, 1-3 mm long, apiculate, glabrous; corolla 5-8 mm long, the lobes triangular, 2-3 mm long, glabrous; stamens with filaments 4-4.5 mm long, ciliate and pubescent distally, anther thecae 2-2.5 mm long, granular, non-apiculate, with apical tubules 1 mm long, glabrous; ovary with style 6-7 mm long. Fruits subspherical-obloid, smooth, ca. 10 mm long at maturity, apex truncate, black, glabrous; seeds angular-ovoid, ca. 0.7-0.8 mm long, testa areolate.

GENERAL DISTRIBUTION: Jamaica, Hispaniola, Puerto Rico, and the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, Grenada.

COMMON NAMES: José, josé vrai.

VACCINIUM L.

Vaccinium L., Sp. Pl. **1:** 349. 1753.

Shrubs, rarely trees, often vinelike, occasionally epiphytic. Leaves alternate, short-petiolate; blades entire or serrate, chartaceous to coriaceous. Inflorescences axillary racemes or the flowers solitary or paired. Flowers regular, perfect; calyx connate with 4 or 5 lobes, the calyx tube (hypanthium) smooth, not ribbed; corolla 4- or 5-merous, tubular-cylindric or urceolate, white, less often red or greenish, glabrous or pubescent; stamens 8 or 10, adnate to base of corolla, filaments longer than or equal in length to anthers, pubescent, anther thecae with apical tubules, dehiscent by terminal pores or elongate foramen; disk conspicuous, short-cylindric; ovary inferior, 4- or 5-locular or falsely 8- or 10-locular, stigma truncate or ± capitate. Fruit a berry crowned by persistent calyx; seeds numerous, small, wingless.

LECTOTYPE: *Vaccinium myrtillus* L.; vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed. 2, **2:** 698. 1913.

A polymorphic genus of approximately 400 to 450 species, best developed in temperate regions, but extending into the tropics at high elevations.

Vaccinium latifolium (Griseb.) Hook. f. *in* Benth. & Hook. f., Gen. Pl. **2:** 575. 1876. FIGURE 15.

Basionym: *Thibaudia latifolia* Griseb., Fl. Brit. W. Indian Is. 143. 1860.
Type: Trinidad, *Crueger s.n.* (B, presumably destroyed, BM, (photo at A!), GH (2 sheets)!, GOET, K).)

Woody vine or scrambling shrub, epiphytic, to 8 m tall. Leaves with petioles 3-9 mm long, stout, glabrous; blades elliptic to ovate, 5-15 × 1.9-7.1 cm, base rounded to cuneate, apex long-acuminate, margin entire, plinerved with veins arising within lower 2 cm, coriaceous, glabrous. Inflorescences 5- to 20-flowered, to 7 cm long; axes moderately slender, to 1 mm thick, glabrous; bracts lanceolate, 2-3 mm long, glabrous, ± persistent. Flowers white, with pedicels 7-15 mm long, swollen distally, when young with several linear, hairlike lobes, these deciduous, glabrous; bracteoles 2, borne near base of pedicel; calyx subcylindric-campanulate, 2-3 mm long, the lobes triangular, to 1 mm long, acute, glabrous; corolla tubular-cylindric, 5-8 mm long, the lobes ca. 1-1.5 mm long, glabrous; stamens with filaments 2.5-3 mm long, pilose, anther thecae ca. 1.5 mm long, nonapiculate, with apical tubules ca. 1 mm long, dehiscent by elongate, oblique pore; ovary with style 5-8 mm long. Mature fruits not seen.

GENERAL DISTRIBUTION: Trinidad, northern Venezuela, and Grenada.

DISTRIBUTION IN LESSER ANTILLES: Grenada!.

NOTE: All observed material from Grenada differs from the type material in having glabrous flowers and inflorescences (vs. white-pubescent).

THEOPHRASTACEAE Link, Handbuch **1:** 440. 1829.

Shrubs or trees. Leaves alternate, or aggregated and often appearing whorled, short-petiolate; blades with apex acute, spiny mucronate, obtuse, or emarginate, margin commonly revolute or with widely spaced sharp teeth, rigidly coriaceous. Inflorescences axillary or terminal or borne below leaves, racemose, corymbose, or reduced to 1 to few flowers. Flowers perfect or unisexual (plants then polygamo-dioecious); calyx 5-parted, united below, imbricate; corolla gamopetalous, rotate- to cylindric-campanulate, 5-lobed, imbricate; staminodes borne on corolla tube, often petaloid, stamens 5, borne near base of corolla tube, longitudinally dehiscent, extrorse; ovary superior, unilocular with ovules numerous or few on free-central placenta, style short or slender, stigma capitate, discoid, or lobed. Fruits coriaceous or fleshy, indehiscent; seeds few to several, borne superficially or immersed in fleshy placenta.

TYPE: *Theophrasta* L.

A family of five genera and perhaps 125 species of tropical America. C. C. Mez published two treatments of the family: *in* Urban, Symb. Antill. **2:** 439-451. 1901 and *in* Engl., Pflanzenreich IV, **236a** (Heft 15): 1-48. 1903. Most recent floras have accepted his work.

CULTIVATED SPECIES

Clavija longifolia (Jacq.) Mez, from Trinidad and Venezuela, has been in cultivation recently on several islands but is inadequately represented in herbaria.

Jacquinia L., Fl. Jamaic. 27. 1759, orth. cons.

Shrubs or small trees, crown often characteristically rounded, trunks often black. Leaves alternate, opposite, pseudoverticillate, or aggregated near ends of branches, petiolate; blades with apex acute, aristate or mucronate, rounded, or emarginate, margin entire and/or revolute, rigidly coriaceous, sometimes drying black. Inflorescences terminal or axillary, or flowers reduced to 1 or few. Flowers regular, perfect; corolla short-campanulate; staminodes 5, petaloid, borne at apex of corolla tube and alternating with petals, stamens 5, borne at base of corolla tube, anthers at first aggregated around stigma and style, later spreading; ovary globose, glabrous, style short, stigma capitate, lobed. Fruits ovoid to globose, coriaceous, often shiny; seeds several and borne superficially or immersed in placenta, or one to few and immersed in placental tissue.

TYPE: *Jacquinia ruscifolia* Jacq. = *Jacquinia aculeata* (L.) Mez.

A genus of perhaps 50 species of tropical America.

NOTE: Linnaeus originally spelled the generic name *Jaquinia*, but Jacquin (Enum. Syst. Pl. 15. 1760) cited the Linnaean reference published only eight months earlier and corrected the spelling without comment. Subsequently, Linnaeus was to use both spellings. D. Nicolson (Taxon **33:** 121-122. 1984) reviewed the literature involved and proposed for conservation *Jacquinia* as the correct orthography. This proposal was accepted by the Committee for Spermatophyta (Taxon **36:** 433. 1987).

CULTIVATED SPECIES

Jacquinia aculeata (L.) Mez from Cuba, *J. aristata* Jacq. from Venezuela, and *J. aurantiaca* Aiton f. from Mexico have been cultivated in botanical gardens. All are species with sharp mucronulate leaf apices and *J. aurantiaca* has large colorful fruits, inedible but ornamental.

KEY TO THE SPECIES

Inflorescences terminal, racemose, flowers ascending............. *J. armillaris*
Inflorescences axillary, short-racemose or flowers few and clustered.. *J. berterii*

Jacquinia armillaris Jacq., Enum. Syst. Pl. 15. 1760; Select. Stirp. Amer. Hist. 53, *t. 39.* 1763. FIGURE 16.

Type: "Caracas, Martinique, Carthagena" (holotype without location, BM!; but see notes below).

Syn.: *Jacquinia arborea* M. Vahl, Eclog. Amer. **1:** 26. 1797. (Type: Montserrat, *Ryan s.n*, (BM!, C!; IDC 2201. 39: II. 4, photo!).)
Jacquinia barbasco Mez *in* Engl., Pflanzenr. IV, **236a** (Heft 15): 32. 1903, nom. illegit.

Shrub or small tree to 5 m tall, branches often whorled, young branches often finely lepidote. Leaves clustered at ends of branches; petioles 1-2 mm long; blades obovate or oblong-obovate, 3-7(-14) × 2-4(-6) cm, base narrowed or cuneate, apex rounded, occasionally emarginate, margin entire, flat or recurved, coriaceous, finely punctate. Inflorescences terminal, 4-7(-12) cm long, few- to many-flowered. Flowers with pedicels 8-12 mm long, ascending; sepals broadly orbiculate or rounded, 2-3 mm in diameter, margin entire, scarious to ciliolate; corolla tube to 6 mm long, lobes orbiculate or oblong, white or cream, darkening with age but rarely orange; staminodes 1-2 mm long. Fruit globose, ca. 6 mm in diameter; seed 1, globular, brown.

GENERAL DISTRIBUTION: Hispaniola, Jamaica, Puerto Rico, Virgin Islands, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

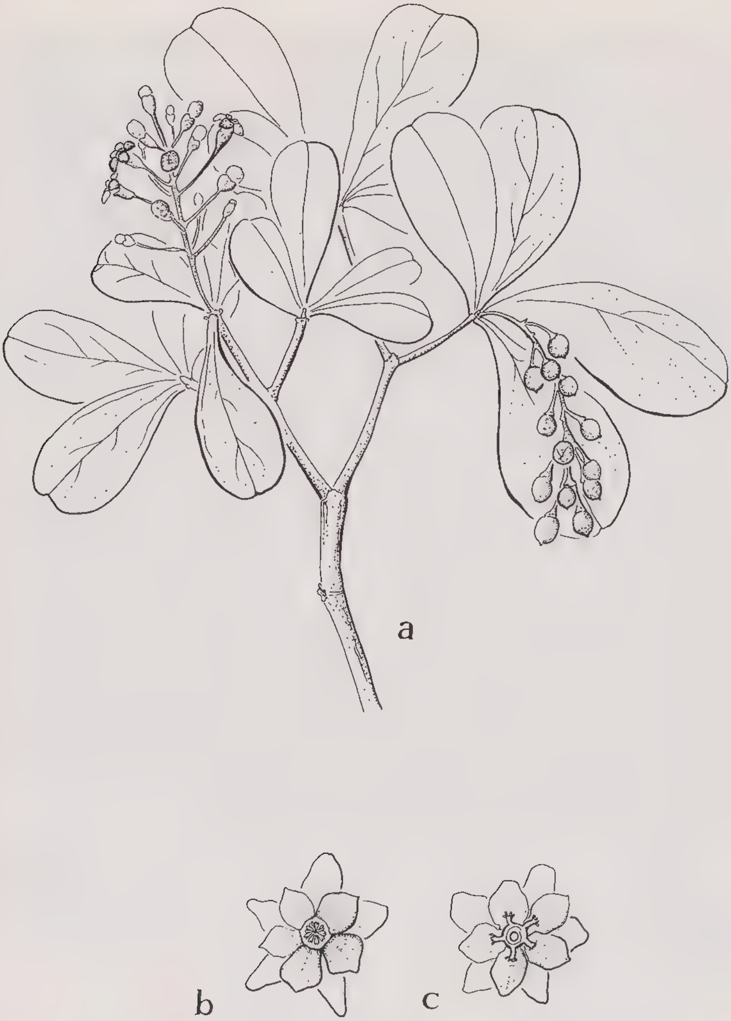


FIGURE 16. *Jacquinia armillaris*: a, habit, × 0.6; b, early flower, stamens aggregate, × 1.5; c, later flowering stage, stamens separated, × 1.5.

COMMON NAMES: Torchwood, boticambo, mal bois chaudelle, flambo blanc, bois la fièvre, bois-bracelet, graine-la-fièvre, bois-casse-cou, olivier bâtard, bois-casse-rose.

NOTES: This taxon has been called "*Jacquinia barbasco* (Loefl.) Mez" for many years and in some current publications. However, the implied basionym is cited by Mez (1903) as "*Chrysophyllum barbasco* Loefl., It. (1758) 204, 277." What Loefling actually published was "*Chrysophyllum. Barbasco*" on page 204 and "*Chrysophyllo* fructu adfinis, foliis pungentibus; vulgo *Barbasco*," on page 277. No specific name was given and "Barbasco" was clearly a common name. The first publication of *Chrysophyllum barbasco* was by A. L. P. P. de Candolle (*in* DC., Prodr. **8:** 149. 1844), but in synonymy of *J. armillaris* Jacq. No attention has been paid to Loefling's description of "foliis pungentibus," which is clearly not *J. armillaris.* The nomenclature of this taxon is not completely settled. *Jacquinia armillaris* was clearly illustrated by Jacquin (1763) and a Jacquin specimen of unknown provenance, possibly a lectotype, is in the British Museum. Jacquin had cited the distribution as "Curacao, Martinique, Carthagena." Specimens studied are variable in size of leaf and number of flowers. Field observations suggest that the larger-leaved specimens are from adventitious or vigorously growing shoots that are weakly branched and flowered. Most plants were compactly branched and profusely flowered. Further, Mez considered this species along with *J. revoluta* Jacq., which he distinguished largely by the presence of ciliolate sepals. *Jacquinia revoluta* was described on the basis of material cultivated in the glass houses at Schonbrunn after introduction from Caracas. The excellent illustration in Jacquin's Fragmenta Botanica (*t. 94, fig. 1*) clearly shows deep orange flowers, leaves with conspicuous apical spines, and sepals without cilia. This appears to be the same plant described by S. F. Blake (Contr. Gray Herb. **53:** 45. 1918) as *Jacquinia mucronata* on the basis of a Venezuelan collection of *Curran & Haman 488* (holotype, GH!). Mez described as *J. revoluta* a very different plant and cited collections from Antigua, Nevis, and Trinidad as well as Venezuela. Britton & Wilson, in the Flora of Puerto Rico, recognize *J. revoluta* sensu Mez and add a collection from Tortola. Unfortunately, not one of these collections has been located. A few specimens we are calling *J. armillaris* from the Lesser Antilles show weak cilia on the sepal margin in flowering condition. In fruit the key character can not be seen. *J. armillaris* appears to be the very common species of dry lands in Jamaica, Hispaniola, Puerto Rico, the Virgin Islands, and throughout the Lesser Antilles extending to Trinidad and possibly the southern Netherlands Antilles and coastal Venezuela.

Jacquinia berterii Sprengel, Syst. Veg. **1:** 668. 1825.

Type: Hispaniola, probably *Bertero s.n.* from Dominican Republic, Santo Domingo (holotype, ?B, presumably destroyed).

Compact, much-branched shrubs to 3 m tall; stems scruffy lepidote. Leaves with petioles 2-4 mm long; blades oblong to obovate-lanceolate, 2-4 × 0.9-1.2 cm, base narrowed or cuneate, apex rounded, acute, or retuse, margin recurved, coriaceous. Inflorescences terminal or in upper axils, racemes 1- to 6-flowered. Flowers with pedicels 5-8 mm long, strongly recurved; sepals nearly orbiculate, 1.5-2 mm in diameter; corolla tube 3 mm long, lobes reflexed. Fruits ovoid to subglobose, 6-8 mm in diameter, orange or yellow; seed 1, globose to oblong, brown.

General distribution: Bahamas, Cuba, Hispaniola, Puerto Rico, Virgin Islands.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Antigua, La Désirade!, Marie Galante!.

Common names: Bois de bouis, casse-cou, bois casse-cou.

Notes: Mez recognized four varieties on the basis of leaf shape. These intergrade and are not worthy of recognition.

For some unexplained reason most specimens of *J. berterii* have turned black on drying, the immature leaves conspicuously so. Although other species of *Jacquinia* may have punctations, these are not black as in the Myrsinaceae and the character of darkening on drying, commonly associated with root parasitism, does not develop in other species from the Caribbean.

MYRSINACEAE

MYRSINACEAE R. Br., Prodr. 532. 1810 ('Myrsineae').

Trees or shrubs, rarely epiphytes, branching often pseudoverticellate with short shoots and clustered leaves. Leaves alternate, petiolate or sessile; blades punctate or lineolate glandular or both, occasionally ferrugineous puberulent or lepidote with appressed scales; exstipulate. Inflorescences terminal or axillary racemes, panicles, corymbs, or fascicles, occasionally borne below the leaves. Flowers small, regular, perfect, or unisexual (plants then dioecious); calyx 4- to 6-parted; corolla rotate or cupuliform; stamens as many as corolla lobes and opposite them, filaments usually short, free or united, anthers poricidally or longitudinally dehiscent; ovary superior, 1-locular, ovules few to many, usually immersed in fleshy free-central placentae, style short or none, stigma capitate or punctiform. Fruits baccate, 1-seeded.

Type: *Myrsine* L.

A family of 35 genera and 1000 species of tropical and sub-tropical areas. For further information see C. Mez *in* I. Urban, Symb. Antill. **2:** 389-433. 1901; *in* Engl., Pflanzenr. IV. **236** (Heft 9): 1-437. 1902; and H. Stehlé, Bull. Soc. Bot. France **108:** 433-440. 1961.

Key to the Genera

1. Inflorescences glomerulate, shorter than petioles; style obsolete, stigma morchelliform or lobed . . . . *Myrsine*
1. Inflorescences paniculate or racemose, longer than petioles; style present, stigma punctiform or capitate.
    2. Filaments free, not forming a staminal tube, free from corolla except at point of insertion; corolla glabrous or glandular-papillose apically within.
        3. Flowers unisexual; anthers (fertile and sterile) oblong or elliptic; corolla lobes contorted in bud.

    4. Inflorescences racemose (in ours); perianth chartaceous to coriaceous, opaque; stamens and staminodes inserted at base of corolla tube; anthers recurved distally . . . . *Wallenia*
    4. Inflorescences paniculate; perianth membranaceous, translucent; stamens and staminodes inserted above base of corolla tube; anthers erect. . . . . *Stylogyne*
  3. Flowers bisexual; anthers (fertile and sterile) ovate to ovate-lanceolate; corolla lobes imbricate in bud.
    5. Branchlets, calyx, and sometimes corolla densely dendroid and stellate-tomentose; corolla papillose-tomentose at least along lobe margins and within at apex; ovules uni- or biseriate . . . . *Parathesis*
    5. Branchlets, calyx, and corolla glabrous (in ours); ovules tri- to multiseriate . . . . *Ardisia*
2. Filaments connate, forming a tube, adnate to corolla tube; corolla tube glandular-granulose within at apex . . . . *Cybianthus*

ARDISIA Sw.

Ardisia Sw., Prodr. 48. 1788, nom. cons.

Syn.: *Icacorea* Aublet, Hist. Pl. Guiane Suppl. 1. 1775, nom. rejic. (Type: *Icacorea guianensis* Aublet.)

Shrubs or small trees. Leaves alternate, short-petiolate. Inflorescences terminal panicles or axillary racemes. Flowers bisexual with pedicels slender, articulate at base; calyx quincuncial or imbricate, lobes very short-connate; corolla 5-parted, lobes imbricate in bud, recurved at anthesis; stamens distinct but connivent by their anthers in a column around the style, filaments equaling anthers in length, anthers ovate to ovate-lanceolate, sagittate at base, mucronate at apex, dehiscent by longitudinal slits; ovules numerous in several rows, style linear, stigma entire. Fruit a drupe, endocarp longitudinally ribbed, several-seeded.

TYPE: *Ardisia tinifolia* Sw., typ. cons.

A genus of 400 species of warmer areas, abundant in the tropics. C. L. Lundell (Phytologia **49:** 346. 1981) has reestablished *Icacorea* as a genus distinct from *Ardisia.*

CULTIVATED SPECIES

Ardisia crispa A. DC. of Asia is represented by cultivated specimens from Martinique collected by Duss and Belanger, and recent collections from Dominica.

KEY TO THE SPECIES

1. Inflorescences terminal.
  2. Leaves coriaceous.

    3. Leaves thin-coriaceous, mostly ca. 9 × 2.5 cm, midrib curved, blade often folded; petals revolute; style 5 mm long .... *A. escallonioides*
    3. Leaves rigid-coriaceous, mostly ca. 17 × 6 cm, flat; petals spreading; style 2-3 mm long .... *A. obovata*
  2. Leaves membranaceous .... *A. magdalenae*
1. Inflorescences axillary.
  4. Calyx lobes to 2 mm long; anthers septate .... *A. elliptica*
  4. Calyx lobes larger; anthers nonseptate .... *A. solanacea*

Ardisia elliptica Thunb., Nov. Gen. Pl. **8:** 119. 1798.

Type: Ceylon, *Thunberg s.n.* (possibly IDC 1036. 223: III. 8, photo! or 224: I. 1, photo!).

Small tree to 5 m tall. Leaves with petioles to 1.5 cm long; blades oblanceolate, 8-12 × 3 cm, base cuneate, apex obtuse, margin entire or slightly crenate, punctate, glabrous. Inflorescences axillary, corymbose, shorter than leaves. Flowers with calyx lobes broadly ovate, 2 mm long, apex acute, pubescent; petals pink, to 1 cm long; anthers septate. Fruits depressed-globose, to 1 cm in diameter, dark purple.

GENERAL DISTRIBUTION: Native of Asia but cultivated and escaped elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Dominica!.

Ardisia escallonioides Schldl. & Cham., Linnaea **6:** 393. 1831.

Type: Mexico, Papantla, *Schiede & Deppe s.n.* (holotype, B, presumably destroyed).
Syn.: *Cyrilla paniculata* Nutt., Amer. J. Sci. **5:** 290. 1822, non *Ardisia paniculata* Roxb. (1838). (Type: E. Florida, *A. Ware s.n.* (holotype, GH!).)
Pickeringia paniculata (Nutt.) Nutt., J. Acad. Nat. Sci. Philadelphia **7:** 95. 1834.

Shrub or small tree to 6 m tall. Leaves with petioles 1-1.2 cm long, slender; blades oblanceolate to obovate or elliptic, 6-10 × 2.5-3.5 cm, base cuneate, apex acute to obtuse, midrib curved, blades commonly folded, thin-coriaceous, glabrous. Inflorescences terminal panicles, 5-12 cm long. Flowers with calyx lobes ovate, 2 mm long, apex acute, ciliate; corolla rotate, lobes oblong or obovate, 3-4 mm long, reflexed, white with purple dots and lines. Fruits globose, 7-9 mm in diameter, black, tipped by persistent, filiform style, 5 mm long.

GENERAL DISTRIBUTION: Southern Florida, Bahamas, Cuba, Hispaniola, Mexico, and Central America.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!.

Ardisia magdalenae Stehlé, Bull. Soc. Bot. France **108:** 435. 1961.

Type: Martinique, *H. & M. Stehlé 3725* (syntypes, P, US).

Small tree 4-6 m tall. Leaves with petioles unknown; blades oblong to oblong-elliptic, 13-18 × 4-7 cm, base acute to cuneate, apex acuminate, margin entire, membranaceous, shiny, glabrous. Inflorescences terminal panicles equaling the leaves, densely flowered, the flowering branches racemose-corymbose. Flowers white. Fruits ovoid, 3-5 mm in diameter, violet, punctulate.

GENERAL DISTRIBUTION: Endemic to Martinique.

DISTRIBUTION IN LESSER ANTILLES: Known only from the type collection, which has not been located nor duplicates seen.

COMMON NAMES: Bois raisin, bois chique.

Ardisia obovata Ham., Prodr. Pl. Ind. Occid. 26. 1825. FIGURE 18.

Type: Hispaniola, Herb. Desv. (P, photo A!).
Syn.: *Ardisia guadalupensis* Duchass. ex Griseb., Abh. Königl. Ges. Wiss. Göttingen **7:** 237. 1857; Syst. Veg. Karaiben 89. 1857. (Type: Guadeloupe, *Duchassaing s.n.* (holotype, GOET).)
Ardisia coriacea sensu Mez *in* Urban, Symb. Antill. **2:** 398. 1901, non Sw. (1788).
Icacorea guadalupensis (Duchass. ex Griseb.) Britton & P. Wilson, Bull. New York Bot. Gard. **8:** 401. 1917.
Ardisia guadalupensis Duchass. ex Griseb. var. *genuina* Stehlé, Bull. Soc. Bot. France **108:** 434. 1961, nom. illegit. for typical variety.
Ardisia guadalupensis Duchass. ex Griseb. var. *blancheana* Stehlé, Bull. Soc. Bot. France **108:** 434. 1961. (Type: Martinique, *D. Blanche 8020* (holotype, P).)

Tree to 6 m tall. Leaves with petioles 7-12 mm long, stout; blades elliptic to elliptic-obovate, 10-18 × 4-6.5 cm, base cuneate, apex obtuse to rounded, veins subobscure, rigid-coriaceous, usually paler below, scarcely punctate, glabrous. Inflorescences terminal subpyramidal panicles, compact, 10-15 cm long, hardly exceeding the leaves. Flowers with sepals oblong-ovate, rounded; petals spreading, ovate-oblong, apex rounded, white to yellow-green, black punctulate or lineolate; stamens laterally dehiscent, yellow. Fruits globose or depressed-globose, 6-8 mm in diameter, black, prominently rugose, style 2-3 mm long.

GENERAL DISTRIBUTION: Bahamas, Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba, St. Eustatius, Nevis!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, Barbados!.

COMMON NAMES: Bois chique, bois-petit chique, petit chique, maho guan bwa, mahaut grande.

Ardisia solanacea Roxb., Pl. Coromandel **1:** 27, *t. 27.* 1795.

Type: India, no specimens cited.
Syn.: *Ardisia humilis* sensu Griseb., Fl. Brit. W. Indian Is. 396. 1861, non M. Vahl (1794).

Shrub or small tree to 4 m tall. Leaves with petioles to ca. 1 cm long; blades elliptic-lanceolate to obovate-elliptic, 12-20 × 4-7 cm, base cuneate, apex acute to obtuse, slightly fleshy or chartaceous, pellucid-dotted. Inflorescences axillary, racemose or flowers aggregated near apex of 3-6 cm long peduncle. Flowers with sepals broadly ovate, 3 mm long; petals ovate or elliptic, to 6 mm long, apex obtuse, margin scarious, ciliate, light mauve to rose; anthers 5-6 mm long, nonseptate. Fruits oblate, 7-8 mm high, 11 mm in diameter, finely black lineolate, pink to black with white flesh.

GENERAL DISTRIBUTION: Native of India, China, and Malaysia; introduced elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, St. Lucia!, Barbados!.

NOTE: E. H. Walker (Philipp. J. Sci. **73:** 58. 1940) noted that Roxburgh's drawing, often cited as the type, was not representative of the collections he had seen.

CYBIANTHUS C. Martius

Cybianthus C. Martius, Nov. Gen. Sp. Pl. **3:** 87. 1831.

Syn.: *Conomorpha* A. DC., Trans. Linn. Soc. London **17:** 102. 1834. (Lectotype: *Conomorpha oblongifolia* A. DC.; designated by Agostini, Acta Biol. Venez. **10:** 151. 1980.)
Weigeltia A. DC., Trans. Linn. Soc. London **17:** 102. 1834. (Type: *Weigeltia myrianthus* A. DC.)
Grammadenia Benth., Pl. Hartw. 218. 1846. (Type: *Grammadenia marginata* Benth.)

Terrestrial or epiphytic shrubs or trees. Leaves alternate, subopposite, or pseudoverticillate, sessile or petiolate. Inflorescences axillary simple racemes or panicles of racemose branches or an indeterminate umbel. Flowers functionally unisexual or bisexual, 3- to 6-merous; staminate flowers with pistillode of various shapes; pistillate flowers with reduced staminodes similar to stamens; calyx cotyliform or cupuliform, lobes imbricate or valvate, connate below, glabrous to glandular-lepidote; corolla cupuliform to rotate, glandular-granulose within, at least at tube apex; stamens with filaments united below and fused to corolla tube, with or without fleshy lobes, alternate; ovary sparsely to densely translucent glandular-lepidote, ovules 2 to 5, style glabrous, stigma punctiform to capitate. Fruits drupaceous, seed solitary.

TYPE: *Cybianthus penduliflorus* C. Martius.

As now recognized, a genus of 150 species of tropical America. For further information see G. Agostini, Acta Biol. Venez. **10:** 129-185. 1980; and J. Pipoly, Mem. New York Bot. Gard. **43:** 59. 1987.

KEY TO THE SPECIES

1. Branches, leaves, and calyx ferrugineous tomentose or lepidote; corolla cupuliform to campanulate; anthers longer than wide, distally recurved, apically acute, dehiscent by wide longitudinal slits. (*Conomorpha*).
   2. Leaves obovate, apex broadly rounded to obtuse . . . . *C. dussii*
   2. Leaves elliptic, apex narrowly caudate-acuminate . . . . *C. rostratus*
1. Branches, leaves, and calyx glabrous; corolla rotate to subrotate; anthers wider than long, erect, apically rounded or emarginate.
   3. Petioles 10-15 mm long; anthers versatile, dorsifixed, longitudinally dehiscent (*Weigeltia*) . . . . *C. antillanus*
   3. Petioles wanting; anthers basifixed, poricidally dehiscent (*Grammadenia*) . . . . *C. parasiticus*

Cybianthus antillanus (Mez) Agostini, Acta Biol. Venez. **10:** 157. 1980.

Basionym: *Weigeltia antillana* Mez *in* Urban, Symb. Antill. **2:** 423. 1901.
Type: Six syntypes cited. No lectotype has been chosen.

Tree to 8 m tall. Leaves with petioles 10-15 mm long; blades obovate to obovate-elliptic, 10-16 × 4.5-7 cm, base cuneate, apex acute, acuminate, or rounded, margin entire, mostly black punctate with few elongate glands. Inflorescences paniculate with racemose branches. Flowers with pedicels 0.5 mm long; sepals suborbiculate; corolla rotate to subrotate, petals ovate, punctate, lepidote-glandular within, cream with pink tips; filaments of fertile stamens 1-1.5 mm long, anthers ovate, wider than long, erect, apex rounded or emarginate, versatile, dorsifixed, longitudinally dehiscent; ovary glabrous, style slender. Fruits depressed-globose, 4-6 mm in diameter, minutely glandular-rugose, bright red.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica, St. Lucia!, Grenada!.

COMMON NAMES: Tuer moi un fois, bois neg.

Cybianthus dussii (Mez) Agostini, Acta Biol. Venez. **10:** 153. 1980.

Basionym: *Conomorpha dussii* Mez *in* Urban, Symb. Antill. **2:** 421. 1901.
Lectotype: Martinique, *Duss 147b* (NY!).

Shrub to 4 m tall, stems densely lepidote. Leaves with petioles to 6 mm long; blades broadly obovate, 18-22 × 12-16 mm, base acute, apex broadly rounded to obtuse, margin entire, coriaceous, densely lepidote on both surfaces. Inflorescences laxly racemose, about equaling the leaves, densely ferrugineous pubescent, few-flowered. Flowers with sepals triangular, to 1 mm long, apex acute, obscurely punctate; corolla cupuliform to campanulate, petals elliptic, 2 × 1 mm; stamens shorter than petals, anthers rounded, longer than wide, equaling filaments, distally recurved, apically acute, dehiscent by wide longitudinal slits. Pistillate flowers and fruits unknown.

GENERAL DISTRIBUTION: Known only from Martinique.

COMMON NAMES: Caca-ravet.

Cybianthus parasiticus (Sw.) Pipoly, Mem. New York Bot. Gard. **43:** 59. 1987. FIGURE 17.

Basionym: *Ardisia parasitica* Sw., Prodr. 48. 1788; Fl. Ind. Occid. **1:** 474. 1797. Type: Dominica, Anderson s.n. (holotype, BM!).
Syn.: *Grammadenia parasitica* (Sw.) Griseb., Fl. Brit. W. Indian Is. 393. 1861.

Epiphytic shrub, rarely terrestrial, branches either pendant or vinelike, to 3 m long. Leaves sessile; blades oblanceolate, 4-9 × 0.9-1.5 cm, narrowed below middle to slightly auriculate base, apex acute or mucronate, margin crenate to entire, coriaceous, glabrous, heavily black punctate in lines with abundant black dots along margin. Inflorescences axillary, to 3 cm long. Flowers with pedicels 1.5-2 mm long, puberulent; calyx lobes ovoid, 0.9-1.2 mm long, medial portion densely black punctate, margins clear; corolla rotate to subrotate, 1.6-1.8 mm long, lobes ovate; filaments free, 0.5 mm long, anthers subsessile, wider than long, erect, apex rounded or emarginate, basifixed, poricidally dehiscent; ovary globose. Fruits depressed-globose, 2 mm in diameter, black with conspicuous, elongate, black lines.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Nevis!, Guadeloupe!, Dominica!, St. Vincent!.

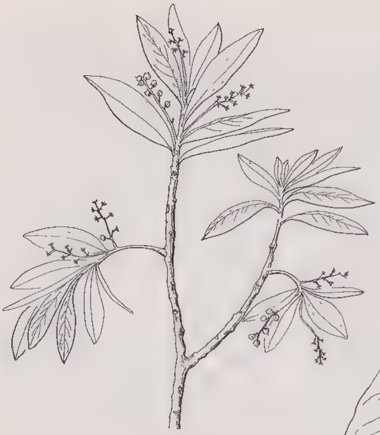
NOTES: Originally cited by Swartz as from Montserrat but later corrected to Dominica. The type was collected by Alexander Anderson, and the St. Vincent record was apparently of a plant cultivated in the botanical garden by Anderson.

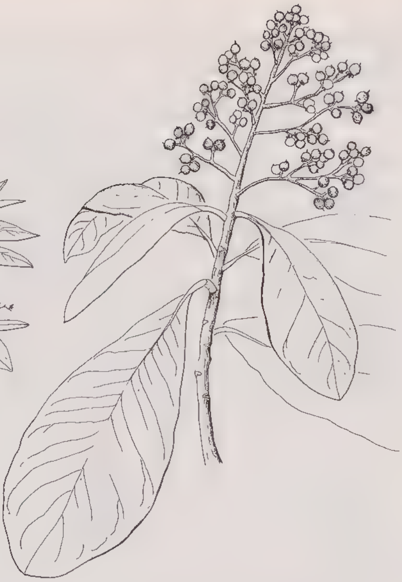
Pipoly (loc. cit.) designates the Anderson specimen at BM as a lectotype (also citing a specimen at S), but this is unnecessary as Swartz clearly indicates that the type collection is at BM (description in the Prodromus is followed by an asterisk).

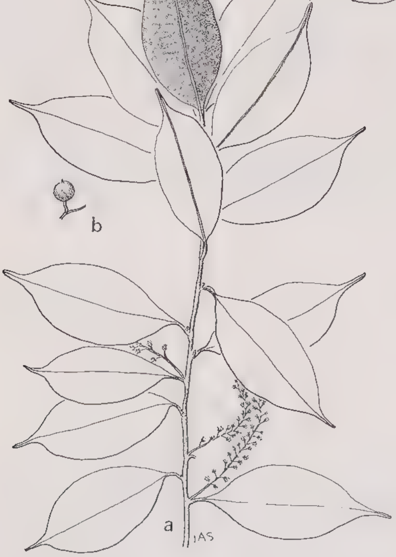
Cybianthus rostratus (Hassk.) Agostini, Acta Biol. Venez. **10:** 155. 1980. FIGURE 19.

Basionym: *Ardisia rostrata* Hassk., Flora **51:** 26. 1868.
Type: *Haaskarl 19* (lectotype, L).
Syn.: *Conomorpha peruviana* A. DC. var. *rostrata* (Hassk.) Mez *in* Urban, Symb. Antill. **2:** 422. 1901.

Tree to 10 m tall, all parts with appressed, lepidote, ferrugineous pubescence. Leaves with petioles 10-15 mm long; blades obovate-elliptic to elliptic, 5-9 × 2.5-4 cm, base cuneate or acute, apex narrowly caudate-acuminate, acumen 10-14 mm long, margin entire. Inflorescences axillary, once or twice branched, racemose panicles, 4-6 cm long, scaly linear-bracteate. Flowers with calyx triangular, to 1 mm long, apex acute; corolla cupuliform to campanulate, lobes oblong, 2 × 1 mm, yellow; filaments shorter than anthers, anthers arcuate, longer than wide, to 0.9 mm long, distally recurved, apically acute, dehiscent by longitudinal slits. Fruits globose, 3-5 mm in diameter, black.







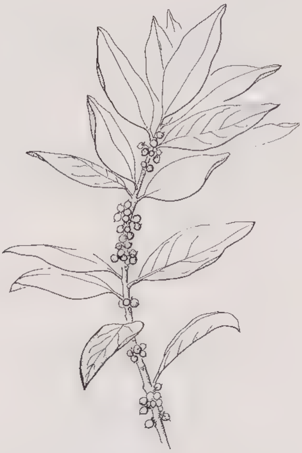


FIGURE 17 (upper left). *Cybianthus parasiticus*: × 0.35. FIGURE 18 (upper right). *Ardisia obovata*: × 0.35. FIGURE 19 (lower left). *Cybianthus rostratus*: a, flowering branch, × 0.35; b, fruit, × 0.35. FIGURE 20 (lower right). *Myrsine coriacea*: x 0.35.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Café marron, bois-chique.

MYRSINE L.

Myrsine L., Sp. Pl. **1:** 196. 1753.

Syn.: *Rapanea* Aublet, Hist. Pl. Guiane **1:** 121, pl. 46. 1775. (Type: *Rapanea guianensis* Aublet.)

Shrubs or small trees, dioecious. Leaves petiolate; blades coriaceous. Inflorescences axillary or borne below leaves, congested umbels on short scaly spurs scattered along twigs. Flowers small, borne on short pedicels; corolla spreading or rotate, 5-parted, tube short; stamens with ovate-oblong anthers, nearly sessile; style obsolete, stigma lobed, large, capitate. Fruits baccate or drupaceous.

TYPE: *Myrsine africana* L.

A genus of over 200 species of tropical areas. Both E. Y. Hosaka (Occas. Pap. Bernice Pauahi Bishop Mus. **16:** 25-76. 1940) and E. H. Walker (Bot. Mag. (Tokyo) **67:** 248. 1954) suggested the distinctions between *Myrsine* and *Rapanea* are artificial or at least not adequate to support a generic distinction. W. Stearn (Bull. Brit. Mus. Nat. Hist., Bot. **4:** 174. 1969) was one of the first to combine the genera in tropical America. F. R. Fosberg & M. H. Sachet (Smithsonian Contr. Bot. **21:** 3. 1975) also recognize but one genus. Conversely, A. C. Smith (J. Arnold Arbor. **54:** 289. 1973) and O. Sleumer (Blumea **31:** 245-269. 1986) argue for the retention of the genera as distinct.

KEY TO THE SPECIES

1. Leaves less than 2.5 cm long, obovate to suborbiculate, with both lines and dots; stems and petioles ferrugineous-pubescent .... *M. rolletii*
1. Leaves much more than 2.5 cm long, lanceolate to oblong-elliptic.
    2. Leaves with pellucid dots beneath; young stems and leaves pubescent.... .... *M. coriacea*
    2. Leaves with linear glands and dots beneath; young shoots glabrous....... .... *M. trinitatis*

Myrsine coriacea (Sw.) R. Br. ex Roemer & Schultes, Syst. Veg. **4:** 511. 1819. FIGURE 20.

Basionym: *Samara coriacea* Sw., Prodr. 32. 1788; Fl. Ind. Occid. **1:** 261. 1797. Type: Jamaica.

Syn.: *Caballeria ferruginea* Ruíz & Pavón, Syst. Veg. Fl. Peruv. Chil. 280. 1798. (Type: *Ruíz & Pavón s.n.*, presumably at MA).

Myrsine ferruginea (Ruíz & Pavón) A. DC., Trans. Linn. Soc. London **17:** 109. 1834.

Myrsine salicifolia A. DC., Trans. Linn. Soc. London **17:** 108. 1834. (Type: Guadeloupe, *Bertero s.n.* (holotype, G-DC; IDC 2562. 1440: I. 1, photo!).)
Myrsine laeta sensu Griseb., Fl. Brit. W. Indian Is. 392. 1861, non (Sw.) A. DC. (1819).
Rapanea coriacea (Sw.) Mez *in* Urban, Symb. Antill. **2:** 428. 1901.
Rapanea ferruginea (Ruíz & Pavón) Mez *in* Urban, Symb. Antill. **2:** 429. 1901.

Tree to 12 m tall, young stems tomentose becoming glabrous. Leaves with petioles to 8 mm long; blades lanceolate to elliptic-lanceolate, 5.5 × 1.8 cm, base cuneate, apex acute or acuminate, young leaves tomentose, older leaves glabrous, pellucid-dotted beneath. Inflorescences 3- to 6-flowered, aggregated. Flowers 1.5 mm long, borne on pedicels 1 mm long; petals fused ca. 1/4 their length; anthers ovate, shorter than petals, apex acuminate. Fruits globose, black.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, Trinidad, Andean and east coast of South America.

DISTRIBUTION IN LESSER ANTILLES: Saba!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Bois gesse, rassade, caca-ravet, ti graines, caca-perruche, bois sand.

Myrsine rolletii R. Howard (nom. nov.), Phytologia **65:** 287. 1988.

Basionym: *Rapanea rotundifolia* Mez *in* Engl., Pflanzenr. IV. **236** (Heft 9): 382. 1902, non *Myrsine rotundifolia* Lam. (1797).
Syntypes: Guadeloupe, *Funck & Schlim 58* and *Perrottet s.n.* (G). No lectotype chosen.
Syn.: *Myrsine rotundifolia* (Mez) Alain, Mem. New York Bot. Gard. **21:** 143. 1971, nom. illegit., non Lam. (1797).

Shrub of elevations above 1000 m, to 2.5 m tall, young parts densely ferrugineous-pubescent. Leaves with petioles 3 mm long; blades broadly obovate to suborbiculate, 2-2.5 × 1.5-2 cm, base cuneate, apex obtuse to emarginate, margin entire or undulate, coriaceous, with both punctate and lineolate glands. Inflorescences few-flowered, equaling the petioles. Flowers with calyx lobes ovate-triangular, 1 mm long, apex acute to rounded; petals elliptic, 2 × 1 mm, apex acute, lineolate. Fruits globular, 2 mm in diameter, black.

GENERAL DISTRIBUTION: Known only from Guadeloupe.

NOTE: Newly named for Bernard Rollet, dendrologist of Guadeloupe.

Myrsine trinitatis A. DC., Trans. Linn. Soc. London **17:** 108. 1834.

Syntypes: Trinidad, *Sieber 50 & 302* (G-DC; IDC 2562. 1439: III. 7, 8, photo!).
Syn.: *Myrsine floribunda* sensu Griseb., Fl. Brit. W. Indian Is. 393. 1861; sensu Duss, Fl. Phan. Antill. Franç. 382. 1897, non R. Br. (1810).
Rapanea trinitatis (A. DC.) Mez *in* Urban, Symb. Antill. **2:** 432. 1901.

Shrubs or trees to 7 m tall, young shoots glabrous, older stems thick, verrucose. Leaves with petioles 4-20 mm long; blades lanceolate to oblong, 8-10 × 3-4 cm, base acute, apex acute to narrowly rounded, margin entire, coriaceous to rigid, with glandular lines and dots beneath. Inflorescences subcorymboid, 1- to 5-flowered. Flowers with sepals squamiform-triangular, margins ciliate; petals short-connate at base; anthers shorter than petals, acute. Fruits globose, 4-5 mm in diameter, black.

General distribution: Trinidad, Tobago.

Distribution in Lesser Antilles: Grenada!.

PARATHESIS (A. DC.) Hook. f.

Parathesis (A. DC.) Hook. f. *in* Benth. & Hook. f., Gen. Pl. **2:** 645. 1876.

Basionym: *Ardisia* sect. *Parathesis* A. DC. *in* DC., Prodr. **8:** 120. 1844.

Trees or shrubs, stems ferrugineous-tomentose. Leaves petiolate; blades entire to crenulate, lepidote. Inflorescences terminal or axillary panicles. Flowers perfect, 5-parted; sepals small, more or less connate at base, lepidote to tomentose; corolla rotate, 5-parted, lobes imbricate, papillose-tomentose at least along margins and within at apex; stamens 5, filaments filiform, not forming staminal tube, free from corolla except at point of insertion, anthers sagittate-lanceolate, acute to mucronate at apex, introrsely dehiscent by two apical pores; ovary ovoid to subglobose, ovules few, uniseriate or biseriate, style short, stigma punctiform. Fruits drupaceous, globose, 1-seeded.

Lectotype: *Parathesis serrulata* (Sw.) Mez; vide N. L. Britton & P. Wilson, Bot. Porto Rico **6:** 58. 1914.

A genus of 75 species of Cuba, Mexico, Central America, and tropical South America.

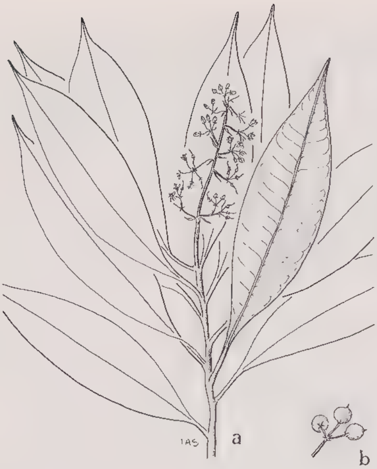
Parathesis crenulata (Vent.) Hook. f. ex Hemsley, Biol. Cent-Amer., Bot. **2:** 291. 1881. Figure 21.

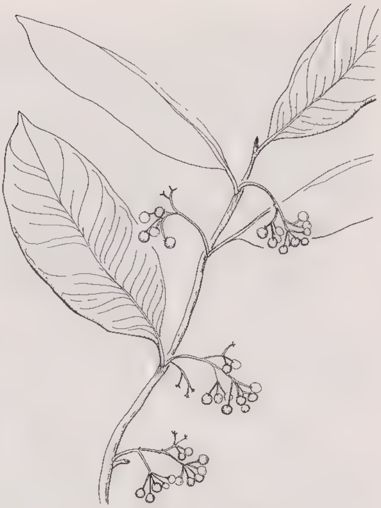
Basionym: *Ardisia crenulata* Vent., Choix Pl. 5, *t. 5.* 1803.
Type: loc. cit. *t. 5.* 1803.

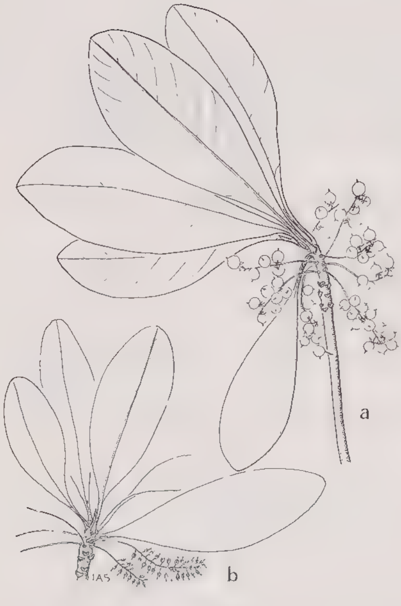
Tree, branches ferrugineous-lepidote. Leaves with petioles 10-25 mm long; blades oblong to elliptic-lanceolate or narrowly elliptic, 16 × 4 cm, base acute, apex acuminate, margin serrulate to subentire, membranaceous, shiny above, minutely punctate beneath. Panicles many-flowered. Flowers with sepals narrowly triangular, apex acute, margin tomentose; petals triangular, apex round, rose; stamens shorter than petals. Fruits globose, 6 mm in diameter.

General distribution: Hispaniola, Puerto Rico.

Distribution in Lesser Antilles: Martinique!.







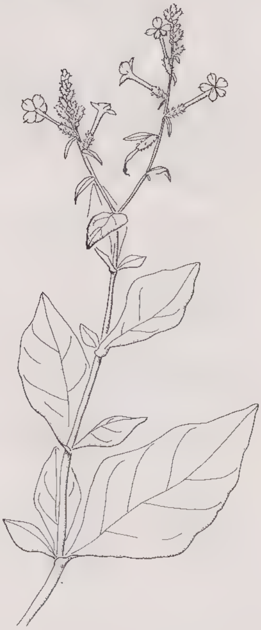


FIGURE 21 (upper left). *Parathesis crenulata*: a, flowering branch, × 0.35; b, fruit, × 0.35. FIGURE 22 (upper right). *Stylogyne lateriflora*: × 0.35. FIGURE 23 (lower left). *Wallenia lamarckiana*: a, fruiting branch, × 0.35; b, flowering branch, × 0.35. FIGURE 24 (lower right). *Plumbago scandens*: × 0.35.

NOTES: Most recent authors have placed *Parathesis crenulata* (Vent.) Hook. f. in synonymy under *Parathesis serrulata* (Sw.) Mez (Basionym: *Ardisia serrulata* Sw., Prodr. 48. 1788; Fl. Ind. Occid. **1:** 471. 1797). Lundell, in his monograph of the genus (Contr. Texas Res. Found., Bot. Stud. **5:** 1-206. 1966) suggests that the two species, although occupying about the same range, are clearly distinct. *Parathesis serrulata* (Sw.) Mez has been collected in Puerto Rico. Lundell did not cite specimens from the Lesser Antilles, and all of our material is out on loan.

STYLOGYNE A. DC.

Stylogyne A. DC., Ann. Sci. Nat. Bot. sér. 2, **16:** 78, 91. 1841.

Trees or shrubs, glabrous or nearly so. Leaves alternate, petiolate; blades densely punctate-glandular. Inflorescences terminal or axillary or borne below the leaves, panicles or compound corymbs. Flowers unisexual with perianth membranaceous, translucent; sepals contorted in bud, punctate or lineolate; corolla united at base, lobes contorted in bud, lineolate-punctate; stamens shorter than corolla, inserted above base of corolla tube, filaments filiform, not forming a staminal tube, anthers elongate, erect, sagittate at base; ovary subglobose, ovules 3 to 5, uniseriate, style slender. Fruits drupaceous, 1-seeded.

TYPE: *Stylogyne martiana* A. DC., nom. illegit. (*Ardisia latipes* C. Martius) ex ING.

A genus of 50 species of the West Indies and tropical America.

KEY TO THE SPECIES

Inflorescences terminal . . . . *S. canaliculata*
Inflorescences axillary or borne below the leaves . . . . *S. lateriflora*

Stylogyne canaliculata (Lodd.) Mez *in* Engl., Pflanzenr. IV. **236** (Heft 9): 268. 1902.

Basionym: *Ardisia canaliculata* Lodd., Bot. Cab. **11:** *t. 1083.* 1826.
Type: Grenada, a cultivated specimen obtained from John Ross and not likely preserved.
Syn.: *Ardisia clusioides* Griseb., Fl. Brit. W. Indian Is. 396. 1861, pro parte.
Stylogyne smithiorum Mez *in* Urban, Symb. Antill. **2:** 418. 1901. (Type: Dominica, *Imray s.n.* (lectotype, K).)

Tree to 10 m tall, glabrous. Leaves with petioles 5-7 mm long; blades elliptic to elliptic-obovate, 16-23 × 6.5-8 cm, base abruptly rounded, apex rounded or bluntly acute, chartaceous to coriaceous, minutely reticulate. Inflorescences terminal panicles with flower clusters umbellate, 3 or 4 times pinnately branched, shorter than leaves. Flowers with pedicels 2-7 mm long; sepals broadly ovate or suborbiculate, 1.5 × 1.5 mm, free, margin entire to crenate; petals 5-6 mm long, connate in basal third; filaments to 3 mm long, anthers 1 mm long; ovary glabrous, placentae 4-ovulate. Fruits globose, 5 mm in diameter, red.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Stylogyne lateriflora (Sw.) Mez *in* Urban, Symb. Antill. **2:** 418. 1901.
Figure 22.

Basionym: *Ardisia lateriflora* Sw., Prodr. 48. 1788; Fl. Ind. Occid. **1:** 473. 1797.
Type: "*India occidentalis.*" No specimens cited, but type should be in Herb. Banks (BM).
Syn.: *Badula caribaea* A. DC., Ann. Sci. Nat. Bot. sér. 2, **16:** 90. 1841. (Type: St. Vincent, *Guilding 14* (holotype, K).)
Ardisia caribaea (A. DC.) Miq. *in* C. Martius, Fl. Bras. **10:** 289. 1856.
Badula lateriflora (Sw.) Griseb., Abh. Königl. Ges. Wiss. Göttingen **7:** 237. 1857; Syst. Veg. Karaiben 89. 1857.
Ardisia laurifolia sensu Griseb., Fl. Brit. W. Indian Is. 395. 1861; sensu Duss, Fl. Phan. Antill. Franç. 382. 1897, non Juss., nor A. DC. (1834).

Shrub or tree to 10 m tall, glabrous. Leaves with petioles 4-9 mm long; blades elliptic to elliptic-obovate, 7-20 × 6-10 cm, base obtuse or cuneate, apex obtuse or acute, pinnately veined, subcoriaceous, black glands lineolate. Inflorescences axillary or borne below leaves, paniculate, to 8 cm long, many-flowered, these subumbellate on branches. Flowers with pedicels 5-10 mm long; sepals 2 mm long, medianly black-glandular, margin whitish; petals oblong, 2-3 mm long, white or pink; stamens as long as petals, anthers 1-1.5 mm long; style slender, 2 mm long. Fruits globose, 6-7 mm in diameter, purple-black but conspicuously black-lineolate when immature.

General distribution: Trinidad.

Distribution in Lesser Antilles: Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Common names: Bois de l'eau grand bois, araliz abricot, aralie-z'abricot, abricot grand feuille, bois-ti graines.

Note: Populations occurring above 1000 m on Guadeloupe, referred to this species, have much smaller leaves.

WALLENIA Sw.

Wallenia Sw., Prodr. 2, 31. 1788, nom. cons.

Syn.: *Petesioides* Jacq., Select. Stirp. Amer. Hist. 17. 1763. (Type: *Petesioides laurifolium* Jacq.)

Trees or shrubs, dioecious, glabrous. Leaves alternate, petiolate; blades entire or serrulate, coriaceous. Inflorescences terminal or axillary racemes or panicles. Flowers 4- or 5-parted with perianth chartaceous to coriaceous, opaque; sepals imbricate, distinct or partly connate in pistillate flowers; corolla tubular, lobes short, contorted in bud; fertile stamens with filaments slender, not forming a staminal tube, inserted (with staminodes) at base of corolla tube, anthers oblong or elliptic, recurved distally, staminodia reduced; ovary subglobose, ovules few, style short, slender. Fruits globose, 1-seeded.

TYPE: *Wallenia laurifolia* (Jacq.) Sw. (*Petesioides laurifolium* Jacq.).

A West Indian genus of about 25 species.

Wallenia lamarckiana (A. DC.) Mez in Urban, Symb. Antill. **2:** 414. 1901. FIGURE 23.

Basionym: *Badula lamarckiana* A. DC., Prodr. **8:** 110. 1844.
Type: *Surian 790* (holotype, P-JU, not found on IDC microfiche).
Syn.: *Ardisia pendula* Urban, Symb. Antill. **1:** 383. 1899. (Type: Puerto Rico, several syntype collections cited, no lectotype chosen.)
Wallenia pendula (Urban) Mez *in* Urban, Symb. Antill. **2:** 414. 1901.

Shrub or tree to 10 m tall. Leaves clustered on short shoots or sympodial branches; petioles 2 cm long; blades obovate-lanceolate to oblong, 6-17 × 3-5 cm, narrowed from above middle to cuneate decurrent base, apex acute to rounded, chartaceous to coriaceous. Inflorescences axillary, racemose, pendulous, 6-20 cm long. Pistillate flowers with sepals incised-crenate on margins, sparsely glandular; corolla 3-4 mm long, greenish-white; stamens shorter than petals, anthers sagittate; ovary ellipsoidal, placentae 3-ovulate, style cylindrical. Fruits 5 mm in diameter, red.

GENERAL DISTRIBUTION: Known only in Puerto Rico and Martinique.

COMMON NAME: Baibaiba.

NOTES: Although the disjunct distribution of Puerto Rico and Martinique is unusual, *Wallenia lamarckiana* seems to be indistinguishable from *Wallenia pendula.* Only a single collection from the Lesser Antilles has been seen. Specimens seen of *Duss 294*, referred to this species by Mez (1902) and Stehlé (1961), are *Stylogyne lateriflora* (Sw.) Mez.

PLUMBAGINACEAE

PLUMBAGINACEAE A. L. Juss., Gen. Pl. 92. 1789.

Perennial shrubs often with scandent branches, or vines. Leaves alternate, simple, with salt glands and excretions abundant; stipules auriculate or flangelike. Inflorescences terminal, racemose or spicate, glabrous, puberulent, or glandular; bracts persistent, bracteoles present. Flowers with calyx tubular, ribbed, with stalked glands, shortly lobed; corolla salverform, lobes entire, spreading; stamens 5; ovary superior, 1-celled, ovule one, pendant, styles 5. Fruits capsular, enclosed in persistent calyx; seed solitary.

TYPE: *Plumbago* L.

A cosmopolitan family of 17 genera and 750 species.

PLUMBAGO L.

Plumbago L., Sp. Pl. **1:** 151. 1753.

Characters of the family.

TYPE: *Plumbago europea* L.

A genus of 12 species of warm regions.

KEY TO THE SPECIES

1. Calyx uniformly covered with long stalked glands nearly to base, 8-10 mm long; inflorescences elongate, to 25 cm; corolla pink, red, or white, not blue.
    2. Corolla white, lobes obovate, rounded . . . . *P. scandens*
    2. Corolla red or pink, lobes broadly elliptic, apiculate; cultivated . . *P. indica*
1. Calyx without stalked glands on lower third, to 15 mm long; inflorescences to 6 cm long; corolla light blue, rarely white, lobes obovate, to 13 mm long; cultivated or naturalized . . . . *P. auriculata*

Plumbago auriculata Lam., Encycl. 2: 270. 1786.

Type: India orientale, *Sonnerat s.n.* (holotype, P-LA; IDC 6207. 417: I. 3, photo!).
Syn.: *Plumbago capensis* Thunb., Prodr. Pl. Cap. 33. 1794. (Type: *Thunberg s.n.*; IDC 1036. 183: III. 6, 7, photo!.)

Shrub to 2 m tall, usually with scrambling branches. Leaves with petioles 2-3 mm long; blades oblong to spatulate, 2.5-5 × 0.7-2 cm, base decurrent, apex rounded, margin entire, membranous. Inflorescences terminal and often clustered, spicate, to 6 cm long, axis puberulent; bracts linear-oblong, 7-9 mm long . Flowers with calyx to 13 mm long, puberulent and with stalked glands except on lower third; corolla tube exceeding calyx by 2-4 cm, lobes obovate, 1.5 × 1.5 cm, light blue.

GENERAL DISTRIBUTION: Native of Africa, widely cultivated in the American tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Saba!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, Barbados!.

COMMON NAME: Lead vine.

Plumbago scandens L., Sp. Pl. ed. 2, **1:** 215. 1762. FIGURE 24.

Type: Jamaica, Sloane, Voy. Jamaica **1:** *t. 133, fig. 1.* 1707.

Weak woody shrub with scandent branches to 2 m tall, stems glabrous. Leaves with petioles to 1.5 cm long; blades ovate to oblong-lanceolate, 5-12 × 3-6 cm, base narrowed and decurrent on petiole, apex acute or acuminate, margin entire or undulate, membranous. Inflorescences spicate, to 25 cm long, axis glandular; bracts lanceolate, to 5 mm long, acuminate, often reflexed and persistent. Flowers with calyx to 12 mm long, strongly ribbed, uniformly covered with long-stalked glands, otherwise glabrous; corolla tube filiform, exceeding calyx by 1.2-2 cm, lobes obovate and mucronate, 5-7 mm long, spreading, white. Capsules lance-ovoid, to 1 cm long, brown and shiny; seed 1, linear-ovoid, 6 × 2 mm, chestnut brown, pustulate.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles, Trinidad, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Redonda!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines, Grenada!, Barbados!.

COMMON NAMES: Doctor John, old woman's bush, sinapisme, collant, zebe man Bihoret, mattarde-pays.

SAPOTACEAE

SAPOTACEAE A. L. Juss., Gen. Pl. 151. 1789.

Tree or shrubs with milky latex, only the genus *Sideroxylon* often thorny, commonly with sympodial branching. Leaves spirally arranged or alternate, rarely opposite, often aggregated at ends of branches, petiolate, blades entire, characteristically brown to golden, rarely silvery pubescent, of malpighiaceous 2-armed or 1-armed hairs; exstipulate. Flowers solitary, clustered in leaf axils or at recently defoliated nodes, or strongly cauliflorous, regular, perfect or unisexual; sepals in one or two whorls, rarely partially spiral, free or rarely united; corolla gamopetalous, lobes simple or divided, usually as many as sepals; stamens generally as many as corolla lobes and opposite them, staminodes sometimes present between corolla lobes, variously developed; pistil syncarpous, ovary superior, 1- to 14-locular, each locule uniovulate, style simple, sometimes obscurely lobed at summit. Fruit a berry, exocarp usually fleshy, often becoming sclerotic; seeds 1 to several, testa hard, smooth and often shiny, hilum area lateral or basal, variously developed, often rough and duller in color, endosperm copious on either side of flat foliaceous cotyledons, or scanty, or absent with thick, fleshy cotyledons.

TYPE: *Sapota Miller* = *Manilkara* Adans.

CULTIVATED SPECIES

Vitellaria paradoxa Gaertner f. (including *Butyrospermum parkii* Kotschy) was once cultivated in the botanical garden on Dominica.

Key to the Genera — Flowering Material

1. Calyx biseriate, 3 + 3 or 4 + 4, outer whorl valvate.
  2. Calyx of 2 whorls of 3 + 3 sepals . . . . *Manilkara*
  2. Calyx of 2 whorls of 4 + 4 sepals . . . . *Mimusops*
1. Calyx a single whorl of 5 or 6 imbricate sepals, or 6 to 11 in a closely imbricate spiral.
  3. Corolla ± rotate; corolla lobes exceeding the tube, spreading; stamens exserted on well-developed filaments; staminodes present . . . . *Sideroxylon*
  3. Corolla tubular or cyathiform; corolla lobes usually ± erect, shorter than or rarely equaling the tube; stamens included, on short filaments; staminodes present or absent.
    4. Staminodes absent; lower leaf surface not glaucous . . . . *Chrysophyllum*
    4. Staminodes present (in *Pouteria pallida* few and rudimentary); lower leaf surface glaucous or whitish.
      5. Venation brochidodromous; lower leaf surface brownish strigose-sericeous . . . . *Micropholis*
      5. Venation eucamptodromous; lower leaf surface not strigose-sericeous . . . . *Pouteria*

Key to the Genera — Fruiting Material

1. Calyx biseriate, 3 + 3 or 4 + 4, outer whorl valvate.
  2. Calyx of 2 whorls of 3 + 3 sepals; seed scar elongate, basi-ventral . . . . *Manilkara*
  2. Calyx of 2 whorls of 4 + 4 sepals; seed scar circular or elliptic, usually basal . . . . *Mimusops*
1. Calyx a single whorl of 5 or 6 imbricate sepals, or 6 to 11 in a closely imbricate spiral.
  3. Seed scar basal or slightly basiventral, small, circular or elliptic, much less than 1/2 length of seed . . . . *Sideroxylon*
  3. Seed scar adaxial or basiventral, large, elongate, up to or exceeding 1/2 length of seed.
    4. Lower leaf surface not sericeous or sericeo-tomentose; seeds without endosperm . . . . *Pouteria*
    4. Lower leaf surface sericeous to sericeo-tomentose; seeds endospermous.
      5. Fruits 1-seeded, appressed pubescent; seed scar narrow, full length . . . . *Micropholis*
      5. Fruits 1- to several-seeded, glabrous; seed scar broad, usually ca. 1/2 to 2/3 the length of the seed, if full length, then fruit several-seeded . . . . *Chrysophyllum*

CHRYSOPHYLLUM L.

Chrysophyllum L., Sp. Pl. **1:** 192. 1753.

Trees or shrubs. Leaves petiolate; blades firm to coriaceous, secondary venation often parallel to primary veins, lower surface sericeous to sericeo-tomentose. Flowers few to many in axillary clusters, pedicellate; sepals 5, uniseriate; corolla lobes 5, usually ± erect, shorter than or rarely equaling tube, lacking appendages; stamens 5, epipetalous, included within corolla tube, filaments attached from near base of corolla tube to level of sinuses; staminodes wanting; ovary 4- to 12-locular. Fruits baccate, glabrous; seeds

1 to several, seed scar large, lateral or basilateral, linear to covering nearly half of seed surface, endosperm copious, cotyledons thin and foliaceous.

TYPE: *Chrysophyllum cainito* L.

A pantropical genus of about 70 species. For further information see A. Cronquist, Bull. Torrey Bot. Club **72:** 191-204. 1945.

KEY TO THE SPECIES

1. Fruits 3-10 cm dia., several-seeded; leaves golden-pubescent beneath........ .... *C. cainito*
1. Fruits to 2 cm dia., 1-seeded.
    2. Ovary 5-celled; leaves reddish or brown-pubescent beneath............. .... *C. oliviforme*
    2. Ovary 7- or 8-celled; leaves silvery-pubescent beneath to glabrate........ .... *C. argenteum*

Chrysophyllum argenteum Jacq., Enum. Syst. Pl. 15. 1760; Select. Stirp. Amer. Hist. 53, *t. 38, fig. 1.* 1763. FIGURE 25.

Type: Martinique, no specimens known (lectotype: loc. cit. *t. 38, fig. 1*).
Syn.: *Chrysophyllum glabrum* Jacq., Enum. Syst. Pl. 15. 1760; Select. Stirp. Amer. Hist. *t. 38, fig. 2.* 1763. (Type: loc. cit. *t. 38, fig. 2.*)
Chrysophyllum caeruleum Jacq., Select. Stirp. Amer. Hist. 52, *t. 37**. 1789. (Type: Martinique, loc. cit. *t. 37**).

Tree to 30 m tall. Leaves with petioles 7-15 mm long; blades elliptic or oblong-elliptic to ovate, 6.5-20 × 2-8 cm, base rounded or obtuse, apex rounded, acute, or abruptly acuminate, thinly silvery-sericeous beneath becoming glabrate. Flowers several in clusters; pedicels 4-13 mm long; sepals broadly rounded, more or less sericeous outside; corolla 4-6 mm long, lobes broadly rounded, half as long as tube, white to greenish or yellow; ovary 7- or 8-locular. Fruits ellipsoid, 1.5-2 cm long, varying to globose and 1 cm in diameter, dark blue to purple or black; seed 1, seed scar subbasal, commonly extending to near middle.

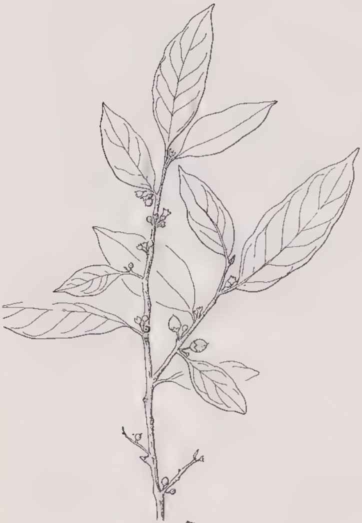
GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, and northern South America.

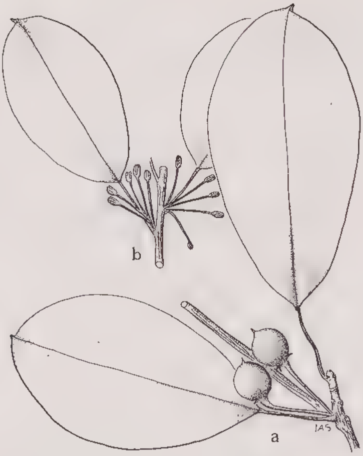
DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

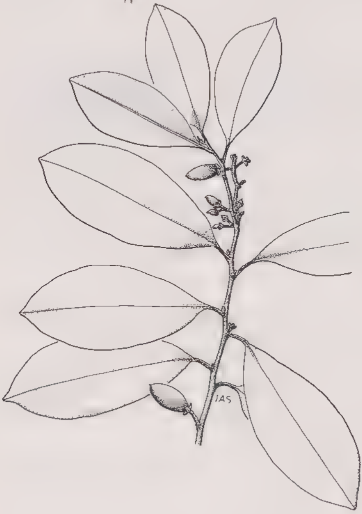
COMMON NAMES: Wild star apple, bris, milky iron, brie marron, bwi.

Chrysophyllum cainito L., Sp. Pl. **1:** 192. 1753.

Lectotype: Sloane, Voy. Jamaica **2:** 170, *t. 229.* 1725.
Syn.: *Cainito pomiferum* Tussac, Fl. Antill. 3: *t. 9.* 1824. (Type: loc. cit. *t. 9.*)
Chrysophyllum cainito L. var. *martinicensis* Pierre *in* Urban, Symb. Antill. **5:** 150. 1904. (Syntypes: Martinique, *Duss 177 & 262.*)
Chrysophyllum cainito L. var. *pomiferum* (Tussac) Pierre *in* Urban, Symb. Antill. **5:** 150. 1904.







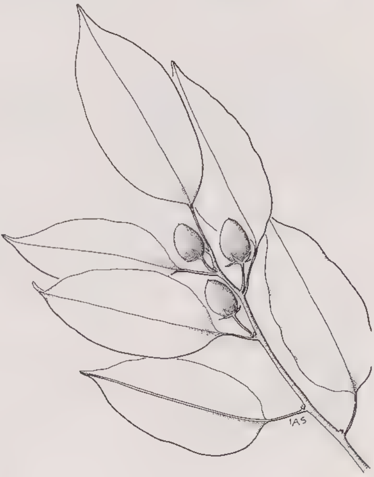


FIGURE 25 (upper left). *Chrysophyllum argenteum*: × 0.3. FIGURE 26 (upper right). *Manilkara bidentata*: a, fruiting branch, × 0.3; b, flowering shoot, × 0.3. FIGURE 27 (lower left). *Micropholis guyanensis*: × 0.3. FIGURE 28 (lower right). *Mimusops elengi*: × 0.3.

Tree to 30 m tall. Leaves with petioles 1-2.5 cm long; blades elliptic to oblong, 10-16 × 5-8 cm, base obtuse to acute, apex short-acuminate, dark green, shiny, and glabrous above, persistently rufous-or golden-pubescent beneath. Flowers numerous in axils; pedicels 5-15 mm long; sepals 5; corolla 3-5 mm long, lobes as long as tube, greenish or yellow, pubescent outside; ovary 4- to 12-locular. Fruits subglobose, 3-10 cm in diameter, yellow to purple-black; seeds 4 to 10, seed scar lateral, nearly as long as seed.

GENERAL DISTRIBUTION: Probably native only in Greater Antilles, introduced and established in Florida, Mexico, Central America, and northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, Barbados!.

COMMON NAMES: Star apple, cainito, fatpork.

Chrysophyllum oliviforme L., Syst. Nat. ed. 10, **2:** 937. 1759.

Type: Plum., Pl. Amer. *t. 69*. 1756.

Tree to 10 m tall. Leaves with petioles 8-12 mm long; blades oblong to ovate, 3-10 × 2-4 cm, base cuneate or rounded, apex acute to short-acuminate, green and shiny above, reddish or brownish pubescent beneath. Flowers few in axillary clusters; pedicels 5-10 mm long; sepals silky pubescent; corolla 4-6 mm long, usually glabrous, white; ovary 5-locular. Fruits oblong, 1-2 cm long, purple; seed usually 1, seed scar basilateral, oblong, 4 × 5 mm.

GENERAL DISTRIBUTION: Southern Florida, Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Grenada!, Barbados!.

NOTE: All Lesser Antillean records are of cultivated plants.

MANILKARA Adans.

Manilkara Adans., Fam. Pl. **2:** 166. 1763, nom. cons.

Trees. Leaves alternate but often clustered at ends of branches, petiolate; blades coriaceous, primary lateral veins numerous, parallel, and straight. Flowers few, axillary, commonly long-pedicellate and pendant; sepals 6, biseriate, outer whorl valvate; corolla white or yellow, glabrous, lobes 6, each often divided into 3; stamens epipetalous, filaments attached at level of sinuses; staminodes alternating with stamens, petaloid, rarely replaced with functional stamens; ovary 6- to 14-locular, pubescent. Fruits baccate, ellipsoidal to depressed-globose; seeds 1 to several, ovoid and laterally compressed, seed scar basilateral, oval to linear, endosperm copious, cotyledons thin and foliaceous.

TYPE: *Mimusops kauki* L. = *Manilkara kauki* (L.) Dubard, typ. cons.

A pantropical genus of about 65 species. For further information see A. Cronquist, Bull. Torrey Bot. Club **72:** 550-562. 1945.

Flowers 3 to 12 per axillary fascicle; pedicels glabrous; corolla tube shorter than lobes; corolla lobes with broad dorsal appendages appearing to be 18 in number; seed solitary, seed scar 5 mm broad, barely reaching middle of seed...... *M. bidentata*

Flowers solitary in leaf axils; pedicels rufous-tomentulose; corolla tube exceeding lobes; corolla lobes entire or merely tridentate at apex, appearing to be 6 in number; seeds few or as many as 12, seed scar linear from base to beyond middle of seed.... .... *M. zapota*

Manilkara bidentata (A. DC.) A. Chev., Rev. Int. Bot. Appl. Agric. Trop. **12:** 270. 1932. FIGURE 26.

Basionym: *Mimusops bidentata* A. DC. *in* DC., Prodr. 8: 204. 1844.

Type: French Guiana, *L. C. Richard s.n.* (holotype, G-DEL; isotypes, G-DC (IDC 2562. 1461: III. 6, photo!), P).

Syn.: *Mimusops sieberi* A. DC. *in* DC., Prodr. **8:** 204. 1844. (Type: Trinidad, *Sieber Fl. Trinitatis 33* (holotype, G-DC; IDC 2562. 1461: III. 5, photo!).)

Mimusops dissecta sensu Griseb., Fl. Brit. W. Indian Is. 400. 1861, pro parte as to *Guilding* specimen from St. Vincent, non (Forster) R. Br. (1810).

Mimusops riedleana Pierre *in* Duss, Fl. Phan. Antill. Franç. 387. 1897. (Lectotype: Martinique, *Duss 3263*.)

Mimusops balata (Aublet) Pierre var. *sieberi* (A. DC.) Pierre *in* Urban, Symb. Antill. **5:** 166. 1904.

Tree to 35 m tall. Leaves with petioles 1.5-4 cm long; blades mostly narrowly obovate to elliptic, 6-30 × 3-12 cm, base rounded, apex obtuse to abruptly short-acuminate, green or slightly reddish beneath. Flowers 3 to 12 in axillary clusters; pedicels 1.5-3 cm long, glabrous; sepals 5-6 mm long, glabrous; corolla 5-7 mm long, tube short, lobes with 2 dorsal appendages as broad as and slightly longer than lobes; ovary 6- to 10-locular, glabrous. Fruits globose to ellipsoid-globose, 2.5-3.5 cm long, smooth but slightly roughened, texture not gritty; seed 1, seed scar basilateral, barely reaching middle of seed, to 5 mm broad.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Panama, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, Barbados!.

COMMON NAMES: Balata, bullet, bullet wood.

Manilkara zapota (L.) P. Royen, Blumea **7:** 410. 1953.

Basionym: *Achras zapota* L., Sp. Pl. **2:** 1190. 1753.

Lectotype: Plum., Nov. Pl. Amer. 43, *t. 4.* 1703.

Syn.: *Achras zapota* L. var. *zapotilla* Jacq., Select. Stirp. Amer. Hist. 57, *t. 41.* 1763. (Type: loc. cit. *t. 41.*)

Manilkara zapotilla (Jacq.) Gilly, Trop. Woods **73:** 20. 1943.

Tree to 40 m tall. Leaves with petioles 0.8-3 cm long; blades elliptic to oblong-elliptic, 4-15 × 2-6 cm, base acute or cuneate, apex rounded to short-acuminate, glabrous above, rufous-tomentose beneath becoming glabrate. Flowers solitary in axils; pedicels 1.2-2.5 cm long, rufous-tomentulose; sepals 6-10 mm long; corolla 6-11 mm long, tube 1/2 to 2/3 of total length, lobes entire to dentate, without dorsal appendages, glabrous or slightly pubescent; staminodes petaloid; ovary 10- to 12-locular, pubescent. Fruits ellipsoidal, depressed-globose to subglobose, to 10 cm in diameter, brown, surface roughened, texture gritty; seeds few or 8 to 12, sharply compressed, commonly 16-23 mm long, seed scar basilateral, extending beyond middle of seed, linear, 2 mm wide.

GENERAL DISTRIBUTION: Mexico and Central America, but widely cultivated in tropical areas with many horticultural varieties selected.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St Lucia!, St. Vincent!, the Grenadines!.

COMMON NAMES: Sapodilla, chapoti, sapotier, bully tree.

NOTE: For a discussion of the nomenclature see H. E. Moore & W. T. Stearn, Taxon **16:** 382-395. 1967. See also following treatment of *Pouteria sapota.*

MICROPHOLIS (Griseb.) Pierre

Micropholis (Griseb.) Pierre, Not. Bot. 37. 1891.

Basionym: *Sapota* Miller sect. *Micropholis* Griseb., Fl. Brit. W. Indian Is. 399. 1861.

Trees or shrubs. Leaves alternate, petiolate; blades firm, appearing striate, venation brochidodromous, primary lateral veins numerous, fine, crowded, nearly straight, brownish strigose-sericeous beneath. Flowers in axillary fascicles, pedicellate; sepals 5, uniseriate, imbricate; corolla lobes 5, lacking appendages; stamens epipetalous, included within corolla tube, filaments attached near level of sinuses; staminodes alternating with stamens, lanceolate, subpetaloid; ovary 5-locular, pubescent. Fruits baccate, ellipsoid to subglobose or ovoid, appressed-pubescent; seed solitary, seed scar lateral, linear, endosperm present but not copious, cotyledons fleshy.

TYPE: *Chrysophyllum rugosum* Sw. = *Micropholis rugosa* (Sw.) Pierre.

A tropical American genus of about 38 species. For further information see A. Cronquist, Lloydia **9:** 241-292. 1946.

Micropholis guyanensis (A. DC.) Pierre, Not. Bot. 40. 1891. FIGURE 27.

Basionym: *Sideroxylon guyanense* A. DC. *in* DC., Prodr. **8:** 182. 1844.
Type: French Guiana, *Martin s.n.* (holotype, P; isotype, G-DC, IDC 2562. 1457: II, 2, photo!).
Syn.: *Micropholis chrysophylloides* Pierre, Not. Bot. 38. 1891. (Type: Puerto Rico, *Sintenis 91* (holotype, B, presumably destroyed).)

Micropholis imrayana Pierre, Not. Bot. 39. 1891. (Type: Dominica, *Imray 338* (holotype, GOET).)
Micropholis achradoformis Pierre *in* Urban, Symb. Antill. **5:** 118. 1904. (Type: St. Vincent, *H. H. & G. W. Smith s.n.*)
Micropholis balata Pierre *in* Urban, Symb. Antill. **5:** 120. 1904. (Syntypes: Puerto Rico, *Krug 2*; St. Lucia, *Ramage s.n.*)
Micropholis discolor Pierre *in* Urban, Symb. Antill. **5:** 121. 1904. (Type: Guadeloupe (lectotype, *Duss 3379*).)
Micropholis dominicensis Pierre *in* Urban, Symb. Antill. **5:** 122. 1904. (Type: Dominica, *Duss 91.*)
Micropholis eggersiana Pierre *in* Urban, Symb. Antill. **5:** 118. 1904. (Type: St. Vincent, *Eggers 6778B.*)
Micropholis truncata Pierre *in* Urban, Symb. Antill. **5:** 119. 1904. (Type: St. Vincent, *H. H. & G. W. Smith 1753.*)
Pouteria achradoformis (Pierre) Baehni, Candollea **9:** 207. 1942.
Pouteria chrysophylloides (Pierre) Stehlé, Caribbean Forest. **4:** 118. 1943.
Pouteria discolor (Pierre) Stehlé, Caribbean Forest. **4:** 118. 1943.

Tree to 30 m tall. Leaves with petioles 1 cm long; blades elliptic to obovate, 3-15 × 1.5-5 cm, base cuneate, apex obtuse to abruptly acuminate, glabrous above, finely sericeous-strigose beneath. Flowers few to several in axillary clusters; pedicels 3-8 mm long; sepals 1.4-3 mm long, loosely hirsutulous outside, strigose inside; corolla 2-4 mm long, glabrous; stamens attached at level of sinuses; staminodes broadly linear to trapezoidal, truncate at apex. Fruits ellipsoidal or oliviform, 2-4.5 × 1.5 cm, tipped by persistent style; seed ellipsoidal, somewhat compressed, to 2 cm long, seed scar narrow, less than 4 mm wide, testa brown.

GENERAL DISTRIBUTION: Puerto Rico, Costa Rica, Panama, northern and western South America, coastal Brazil.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Wild balata, balata chien, brie-puelle, feuille-doré, fèy dowé.

MIMUSOPS L.

Mimusops L., Sp. Pl. **1:** 349. 1753.

Trees. Leaves alternate, petiolate; blades leathery, glabrous or glabrate. Flowers pedicellate; sepals 8, biseriate, outer whorl valvate; corolla lobes 8, each lobe divided into 3 segments; stamens epipetalous, filaments attached at level of sinuses; staminodes alternating with stamens, usually simple, lanceolate, densely pilose abaxially and on the margins; ovary 8-locular. Fruits baccate; seeds 1 to several, ovoid to laterally compressed, seed scar basal to basilateral, scarcely longer than broad, endosperm copious, cotyledons thin and foliaceous.

TYPE: *Mimusops elengi* L.

About 35 species in Africa, Madagascar, and Mascarenes, with one species from Malaysia to the Pacific area.

Mimusops elengi L., Sp. Pl. **1:** 349. 1753. FIGURE 28.

Tree to 15 m tall. Leaves with petioles 2-2.6 cm long; blades elliptic or broadly oblong, 5-12 × 4-6 cm, margin undulate, veins thin, indistinct, glabrous. Flowers in leaf axils; pedicels 7-10 mm long; calyx lobes narrowly triangular, 6-7 mm long; petals 6-9 mm long with equal paired appendages, white. Fruits ovoid, 2-3 cm long, 1.5-2 cm in diameter, orange; seed solitary, compressed, seed scar sub-basal, short, circular, 3 mm in diameter.

GENERAL DISTRIBUTION: Tropical Asia.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Dominica!, Martinique!.

NOTES: An introduced tree occasionally cultivated but in some areas producing numerous seedlings with the potential of escaping.
Mimusops kauki L. (= *Manilkara kauki* (L.) Dubard) was once cultivated in the St. Vincent Botanic Garden.

POUTERIA Aublet

Pouteria Aublet, Hist. Pl. Guiane **1:** 85, *pl. 33.* 1775.

Syn.: *Neoxythece* Aubrév. & Pellegrin, Adansonia ser. 2, **1:** 16. 1961. (Type: *Sideroxylon elegans* A. DC. = *Neoxythece elegans* (A. DC.) Aubrév. & Pellegrin.)

Trees or shrubs. Leaves alternate, rarely subopposite, petiolate; blades membranaceous to coriaceous, venation eucaptodromous, primary lateral veins generally few, strongly arcuate near margin. Flowers solitary to several in axils, sessile to long-pedicellate; sepals 4 to 12 in single imbricate whorl, or spirally arranged; corolla lobes 4 to 6, usually ± erect, shorter than or rarely equaling tube, without appendages, white to yellowish; stamens epipetalous, included within corolla tube, occasionally aborted, filaments variously attached from near base to level of sinuses; staminodes alternating with stamens, petaloid or rudimentary; ovary 2- to 8-locular, pubescent. Fruits baccate, occasionally sclerotic; seeds 1 to several, seed scar lateral, linear to very broad, endosperm absent, cotyledons fleshy.

TYPE: *Pouteria guianensis* Aublet.

A genus of about 350 species in tropical America and Asia. For further information and the changes of opinion regarding the generic limits of *Pouteria* see C. Baehni, Candollea **9:** 147-476. 1942; A. Cronquist, Lloydia **9:** 241-292. 1946; A. Aubréville, Adansonia ser. 2, **1:** 150-191. 1961; C. L. Lundell, Wrightia **5:** 241-259. 1976; and G. E. Pilz, Ann. Missouri Bot. Gard. **68:** 172-203. 1981.

KEY TO THE SPECIES

1. Sepals 4, about equal.
   2. Flowers and fruits evidently pedicellate; fruits glabrous, 2-6 cm long, yellow; midrib glabrous . . . . *P. multiflora*
   2. Flowers and fruits subsessile; fruits pubescent, to 4 cm long; midrib hirsute . . . . *P. semicarpifolia*
1. Sepals more than 4.
   3. Sepals 8 to 12, spirally arranged; corolla 9-10 mm long; fruits 8-20 cm long, roughened, texture granular . . . . *P. sapota*
   3. Sepals 5 in a single whorl; corolla 2.7-3.5 mm long; fruits ≤ 5 cm long, smooth . . . . *P. pallida*

Pouteria multiflora (A. DC.) Eyma, Recueil Trav. Bot. Néerl. **33:** 164. 1936.

Basionym: *Lucuma multiflora* A. DC. *in* DC., Prodr. **8:** 168. 1844.
Type: Puerto Rico, *Bertero s.n.* (G-DC; IDC 2562. 1453: III. 2, photo!).
Syn.: *Radlkoferella multiflora* (A. DC.) Pierre, Not. Bot. 21. 1890.
Lucuma dussiana Pierre *in* Duss, Fl. Phan. Antill. Franç. 388. 1897. (Type: Martinique, *Duss 257* (lectotype, P).)
Lucuma martinicensis Pierre *in* Urban, Symb. Antill. **5:** 105. 1904. (Type: Martinique, *Duss 258* (lectotype, P).)
Pouteria dussiana (Pierre) Stehlé, Caribbean Forest. **4:** 118. 1943.
Pouteria martinicensis (Pierre) Stehlé, Caribbean Forest. **4:** 118. 1943.

Tree to 30 m tall. Leaves with petioles 1-3 cm long; blades lanceolate to elliptic or obovate, 10-20 × 5-9 cm, base cuneate-tapering, apex rounded to acuminate, midrib glabrous. Flowers 1 to 8, clustered in leaf axils; pedicels 1 cm long; sepals 4, orbiculate to orbiculate-reniform, 5-7 mm long, slightly auriculate; corolla 6-9 mm long, 6-lobed; staminodes lance-subulate, 2.5-3 mm long; ovary mostly 4-locular. Fruits globose to broadly ellipsoidal, 2-6 cm long, yellow, glabrous; seed solitary, subglobose to slightly flattened, 1.5-4 cm long, seed scar elliptic, 6-25 mm wide, testa smooth, shiny, brown or tan.

GENERAL DISTRIBUTION: Jamaica, Hispaniola, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Nevis!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Penny piece, choky apple.

Pouteria pallida (Gaertner f.) Baehni, Candollea **9:** 352. 1942.

Basionym: *Lucuma pallida* Gaertner f., Suppl. Carp. **2:** 130, *t. 204.* 1807 (as "pallidum").
Type: Guadeloupe, *Delessert s.n.* (170/9 in Gaertner's seed collection, TUB).
Syn.: *Oxythece hahnianum* Pierre *in* Duss, Fl. Phan. Antill. Franç. 387. 1897. (Syntypes: Guadeloupe, *Duss 3493*; Martinique, *Duss 253 & 254.*)
Oxythece fabrilis Pierre *in* Urban, Symb. Antill. **5:** 160. 1904. (Type: Dominica, *Imray s.n.* (lectotype, GOET).)
Pouteria fabrilis (Pierre) Stehlé, Caribbean Forest. **4:** 118. 1943.
Pouteria hahniana (Pierre) Stehlé, Caribbean Forest. **4:** 118. 1943.

Oxythece pallida (Gaertner f.) Cronq., Bull. Torrey Bot. Club **73:** 467. 1946.
Planchionella pallida (Gaertner f.) Baehni, Boissiera **11:** 67. 1965.

Tree to 30 m tall. Leaves with petioles 8-15 mm long; blades elliptic to obovate, 7-14 × 2.5-10 cm, base cuneately narrowed to petiole, apex rounded to abruptly short-acuminate, lower surface pale, appearing glaucous. Flowers on pedicels 10-15 mm long; sepals 5 in a single whorl, 1.7-2 mm long, strigillose; corolla 2.7-3.5 mm long; staminodes to 1 mm long or absent; ovary 2-locular, pubescent. Fruits ellipsoidal, ≤ 5 cm long, 1.5-2 cm in diameter, smooth, brown with short pubescence; seed solitary, ellipsoidal, 2.5-4 cm long, seed scar 8-9 mm broad, extending nearly length of seed, testa tan or straw-colored, smooth and shiny.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

COMMON NAMES: Balata, balata laite, balata chien, merise, inferior bullet.

Pouteria sapota (Jacq.) H. Moore & Stearn, Taxon **16:** 383. 1967.

Basionym: *Sideroxylum sapota* Jacq., Enum. Syst. Pl. 15. 1760.
Type: Jacq., Select. Stirp. Amer. Hist. 56, *t. 182, fig. 19.* 1763.
Syn.: *Calocarpum sapota* (Jacq.) Merr., Enum. Philipp. Fl. Pl. **3:** 284. 1923.

Tree to 30 m tall. Leaves with petioles 4 cm long; blades broadly oblanceolate to narrowly obovate, 10-60 × 4.5-5 cm, base cuneate, apex abruptly acuminate, glabrous above, appressed pubescent beneath. Flowers clustered at defoliated nodes or fully cauliflorous, subsessile or on pedicels to 4 mm long; sepals 8 to 12, spirally arranged, all sericeous abaxially with glabrous margins; corolla 9-10 mm long, lobes equaling tube or slightly longer, white; staminodes filiform, 2 mm long; ovary 4- or 5-locular. Fruits ellipsoidal to ovoid or subglobose, 8-20 cm long, brown, roughened; seed solitary, large, seed scar broadly obovate, testa shiny, deep brown to black.

GENERAL DISTRIBUTION: Native only from Mexico to Nicaragua, but introduced elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, Martinique! (cultivated or persisting after cultivation).

COMMON NAMES: Mammee sapota, mamey sapote, mamme colorado, sapote à crème, chapot, vannilós.

NOTES: Moore & Stearn have pointed out that the name *Achras mammosa* L. is illegitimate. Thus the names *Calocarpum mammosum* (L.) Pierre, *Lucuma mammosa* (L.) Gaertner f., *Pouteria mammosa* (L.) Cronq., and *Sapota mammosum* (L.) Miller, commonly applied to this large fruit called the sapote or mamey colorado, are also illegitimate.

Pouteria semecarpifolia (Pierre) Pierre *in* Urban, Symb. Antill. **5:** 108. 1904.
FIGURE 29.

Basionym: *Guapeba? semecarpifolia* Pierre, Not. Bot. 43. 1891.
Type: Martinique, *Duss 255* (holotype, B, presumably destroyed).

Tree to 15 m tall. Leaves with petioles to 2 cm long; blades oblong-obovate to narrowly elliptic-obovate, 12-30 × 5-8 cm, base obtuse or subtruncate, apex acute to apiculate, midrib hirsute beneath, veins 10 to 16 pairs. Flowers 7 or 8 per cluster, subsessile; sepals 4, pubescent; corolla 6-7 mm long, lobes shorter than tube, ciliolate; staminodes linear-subulate or lanceolate; ovary 4-locular. Fruits ovate, 3.8 × 2.4 cm, densely short-pubescent; seeds 2.4 × 2 cm, seed scar 11 mm wide, nearly as long as seed.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Contrevent, bois contrève, bois de rose.

SIDEROXYLON L.

Sideroxylon L., Sp. Pl. **1:** 192. 1753.

Syn.: *Bumelia* Sw., Prodr. 3, 49. 1788, nom. cons. (Type: *Bumelia retusa* Sw., typ. cons.)
Dipholis A. DC. *in* DC., Prodr. **8:** 188. 1844, nom. cons. (Type: *Dipholis salicifolia* (L.) A. DC.)
Mastichodendron (Engl.) H. J. Lam, Recueil Trav. Bot. Néerl. **36:** 521. 1939. Lectotype: *Mastichodendron foetidissimum* (Jacq.) H. J. Lam.

Shrubs or trees, sometimes thorny. Leaves spirally arranged, sometimes becoming fascicled on short lateral shoots. Inflorescences axillary or in axils of fallen leaves. Flowers with 5 imbricate sepals; corolla cyathiform, tube shorter than lobes, lobes 5, spreading, entire or divided into 3 segments (longer median segment and 2 smaller lateral segments); stamens 5, exserted, filaments well-developed, inserted at level of sinuses; staminodes 5, usually well-developed, alternating with stamens; ovary 5-locular, pubescent or glabrous. Fruits with seed 1 (to 3), seed scar small, basal or basiventral, circular or elliptic, much less than 1/2 length of seed, endosperm present or absent, cotyledons thin and foliaceous or thick and plano-convex.

TYPE: *Sideroxylon inerme* L.

A pantropical genus of ca. 75 species, well-represented in semiarid regions but extending into the humid tropics. For further information on American species see A. Cronquist, J. Arnold Arbor. **26:** 435-471. 1945; W. T. Stearn, J. Arnold Arbor. **49:** 280-289. 1968; and T. D. Pennington, Fl. Neotrop. Monogr., Sapotaceae (in press).

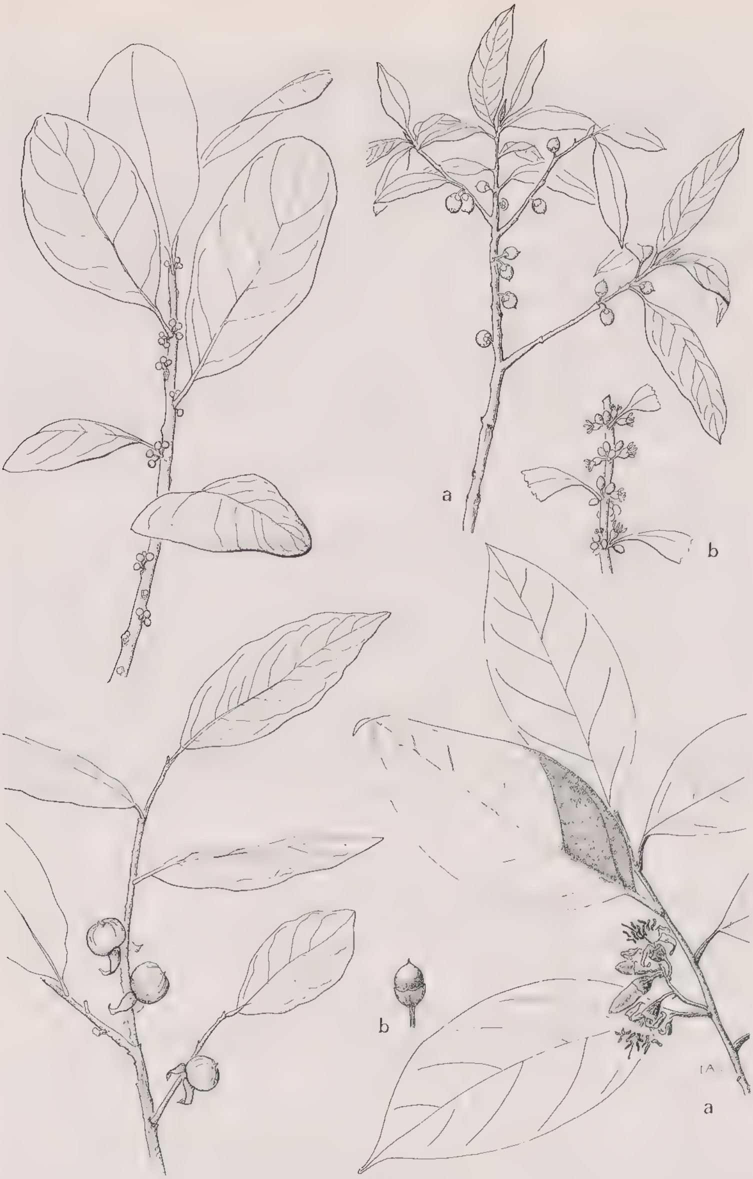


FIGURE 29 (upper left). *Pouteria semecarpifolia*: × 0.35. FIGURE 30 (upper right). *Sideroxylon salicifolia*: a, fruiting branch, × 0.35; b, flowering branch, × 0.35. FIGURE 31 (lower left). *Diospyros inconstans*: × 0.35. FIGURE 32 (lower right). *Styrax glaber*: a, flowering branch, × 0.35; b, fruit, × 0.35.

KEY TO THE SPECIES

1. Leaves 1-3.5 cm long, usually broadly cuneiform or obovate, often as broad as long, with numerous fine striations running parallel to secondary veins on upper surface; seed without endosperm (or only a thin sheath) .... *S. obovatum*
1. Leaves 4 cm long, oblanceolate or elliptic, at least twice as long as broad, usually more, without fine striations parallel to secondary veins; seed endospermous.
    2. Venation eucamptodromous, tertiary veins horizontal or reticulate; corolla lobes entire .... *S. foetidissimum*
    2. Venation brochidodromous, tertiary veins parallel to secondaries and descending from margin; corolla lobes with larger median segment and 2 smaller lateral segments.
        3. Leaves usually elliptic, with 10 to 17 pairs of secondary veins; flowers in fascicles of 5 to 12; style 1.5-2.5 mm long .... *S. salicifolium*
        3. Leaves oblanceolate, with 5 to 7 pairs of secondary veins; flowers in fascicles of 1 to 3; style 0.5-1 mm long .... *S. cubense*

Sideroxylon cubense (Griseb.) Penn., Fl. Neotrop. Monogr., Sapotaceae (in press).

Basionym: *Bumelia cubensis* Griseb., Cat. Pl. Cub. 164. 1866.
Type: Cuba, *Wright 1637.*

Unarmed shrub or small tree to 6 m tall. Leaves with petioles 1-5 mm long; blades oblanceolate, 3-7 × 1-3 cm, base narrowly attenuate, apex rounded to truncate, venation brochidodromous, secondary veins 5 to 7 pairs, tertiary veins parallel to secondaries and descending from margin, glabrous. Flowers axillary, in fascicles of 1 to 3; pedicels 0.2-1 cm long; sepals appressed puberulous to subglabrous; corolla 3-4 mm long, lobes with larger median and 2 smaller lateral segments, glabrous; ovary glabrous, style 0.5-1 mm long. Fruits broadly ellipsoid to oblong, 0.8-1 cm long, dull reddish; seeds endospermous.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!.

Sideroxylon foetidissimum Jacq., Enum. Syst. Pl. 15. 1760; Select. Stirp. Amer. Hist. 55. 1763.

Type: Santo Domingo, no specimens known.
Syn.: *Mastichodendron foetidissimum* (Jacq.) H. J. Lam, Meded. Bot. Mus. Herb. Rijks. Univ. Utrecht **65:** 521. 1939.
Mastichodendron sloaneanum Box & Philipson, Bull. Brit. Mus. Nat. Hist., Bot. **1:** 23. 1951. (Type: Barbados, *Sloane s.n.* in 1687 (BM).)

Tree to 25 m tall. Leaves with petioles 5-7 cm long; blades variable, most commonly broadly elliptic or narrower to elliptic-lanceolate, 10-15 × 4-8 cm, base rounded to acute, apex rounded to acute, venation eucamptodromous, secondary veins curved, tertiary veins horizontal or reticulate. Flowers numerous in axillary clusters or cauliflorous; pedicels to 1 cm long; sepals rounded, glabrous or ciliate on margins; corolla 3.5-5 mm long, lobes entire, elliptic-ovate, yellow; staminodes ovate, deltoid, or lanceolate, attenuate;

ovary glabrous. Fruits globose or slightly compressed, 1.5-2.5 cm long, yellow; seed 1, broadly elliptic-oblong, slightly compressed, 12-23 mm long, endospermous, seed scar oblique, circular to lanceolate, 2-8 mm long.

GENERAL DISTRIBUTION: Florida, Bahamas, Greater Antilles, Mexico, Guatemala, Belize.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, the Grenadines!, Barbados!.

COMMON NAMES: Acouma, acoumat, mastic.

Sideroxylon obovatum Lam., Tabl. Encycl. **2:** 42. 1794.

Type: Hispaniola, collector unknown (holotype, P-LA; IDC 6207. 422: I. 7, photo!).
Syn.: *Bumelia cuneata* Sw., Fl. Ind. Occid. **1:** 496. 1797. (Type: Jamaica and Ind. Occid., but no specimens cited.)
Bumelia obovata (Lam.) A. DC. *in* DC., Prodr. **8:** 191. 1844.

Shrub or small tree 2-6 m tall, unarmed or sometimes strongly armed with thorns, often densely branched and compact. Leaves with petioles 2-4 mm long; blades elliptic-obovate to broadly ovate or suborbiculate, 1-3.5 × 0.3-3.3 cm, occasionally some much smaller, base cuneate, apex broadly rounded or undulate, rufous-strigose beneath becoming glabrate, upper leaf surface with slightly raised, irregularly reticulate striations, these tending to parallel the secondary veins. Flowers mostly 2 to 10 in axillary clusters, each subsessile or extended on pedicels to 1 cm long; sepals glabrous or strigose; corolla 2.7-4.3 mm long, to 0.7-1.3 mm broad, lobes with median and 2 lateral segments; ovary hairy or subglabrous. Fruits subglobose to ellipsoid-cylindrical, 5-12 mm long, black; seed without endosperm (or only a thin sheath).

GENERAL DISTRIBUTION: Greater Antilles, Venezuelan islands.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Martinique!, St. Lucia!, the Grenadines!.

COMMON NAMES: Boxwood, milky thorn, box tree.

Sideroxylon salicifolium (L.) Lam., Tabl. Encycl. **2:** 42. 1794.
FIGURE 30.

Basionym: *Achras salicifolia* L., Sp. Pl. ed. 2, **1:** 470. 1762.
Type: Jamaica, herb. Sloane (BM).
Syn.: *Bumelia pentagona* Sw., Prodr. 50. 1788; Fl. Ind. Occid. **1:** 494. 1797. (Type: Dominica, *Ponthieu s.n.* (holotype, BM).)
Bumelia salicifolia (L.) Sw., Prodr. 50. 1788.
Dipholis salicifolia (L.) A. DC. *in* DC., Prodr. **8:** 188. 1844.
Sideroxylon pentagonum (Sw.) A. DC. *in* DC., Prodr. 8: 185. 1844.

Large shrub or tree to 25 m tall, unarmed. Leaves with petioles 0.5-1.5 cm long; blades narrowly elliptic to elliptic-lanceolate or elliptic-oblanceolate, 5-11 × 1.5-4 cm, base acute, apex acute or acuminate, venation brochidodromous, secondary veins usually 10 to 17 pairs, tertiary veins parallel to secondaries and descending from margin, glabrate when mature. Flowers numerous in clusters of 5 to 12 at nodes below leaves; pedicels 1-4 mm long; corolla 3.3-4.5 mm long, tube 1.3-1.6 mm long, lobes rounded elliptic, narrowed to clawlike base above lateral lobes, or appendages that are lanceolate or ovate and acute or acuminate; staminodes petaloid, 1.5-2 mm long, erose-laciniate; ovary glabrous, style 1.5-2.5 mm long. Fruits broadly ellipsoid or subglobose, 6-10 mm long, black; seeds 1 to 3, endospermous, seed scar circular to elliptic, 1 mm in diameter, testa light to dark brown.

General distribution: Florida, Bahamas, Greater Antilles, Central America.

Distribution in Lesser Antilles: Anguilla!, Barbuda!, Antigua!, St. Eustatius!, Guadeloupe!, La Désirade!, Marie Galante!, Barbados!.

Common names: Sweetwood, acomat bâtard.

EBENACEAE

EBENACEAE Gurcke *in* Engl. & Prantl, Nat. Pflanzenfam. IV, **1:** 153. 1891.

Trees or shrubs, usually dioecious. Leaves alternate, simple; exstipulate. Inflorescences axillary, cymose, or flowers solitary. Flowers occasionally perfect; calyx 3- to 6-lobed, often accrescent and undulate in fruit; corolla urceolate or campanulate, lobes 4 to 6, contorted in bud, tube constricted at apex, lobes spreading and recurved; stamens in 2 rows, unequal, filaments short, often pubescent; ovary rudimentary or absent in staminate flowers, depressed globose to oblong in pistillate flowers, usually 8-locular or less in fruit, glabrous or pubescent, styles 4, united below. Fruit a berry, astringent, orange to brown or black; seeds 1 per locule, oblong and slightly flattened.

Type: *Ebenus* Kuntze, nom. illegit. (non L., 1753) = *Diospyros* L.

A family of 3 genera and 500 species of tropical areas.

DIOSPYROS L.

Diospyros L., Sp. Pl. **2:** 1057. 1753.

Characters of the family.

Lectotype: *Diospyros lotus* L.

A genus of 500 species of warm temperate and tropical areas.

CULTIVATED SPECIES

Diospyros blancoi A. DC. This plant, often called mabolo or velvet persimmon, has been cultivated on Montserrat and Guadeloupe under the name *Diospyros discolor* Willd. See: R. Howard, Baileya **18:** 2. 1971.

Diospyros kaki L. f. Reported by Fournet to be under cultivation.

Diospyros malabarica (Desr.) Kostel. Recently cultivated on Montserrat, Dominica, and St. Lucia as *D. embryopteris* Pers.

KEY TO THE SPECIES

Leaves subcoriaceous, surface dull; calyx 3-lobed, lobes foliaceous, acute; fruit orange, 1-2 cm dia. .... *D. inconstans*

Leaves thick, coriaceous, shiny; calyx 4- to 6-lobed, lobes thick, triangular; fruits black, 5 cm dia. .... *D. revoluta*

Diospyros inconstans Jacq., Enum. Syst. Pl. 34. 1760; Select. Stirp. Amer. Hist. 276, *t. 174, fig. 67.* 1763. FIGURE 31.

Type: Cartagena, loc. cit. *t. 174, fig. 67.*
Syn.: *Maba inconstans* (Jacq.) Griseb., Fl. Brit. W. Indian Is. 404. 1861.

Shrub or small tree to 5 m tall, twigs glabrous. Leaves with petioles 3-8 mm long; blades oblong or oblong-obovate, 3-18 × 2-5 cm, base rounded, apex obtuse, margin slightly recurved, entire, subcoriaceous, dull gray when dry, glabrate or slightly pubescent. Staminate flowers generally in clusters of three, pistillate solitary; calyx campanulate, 3-lobed, lobes foliaceous, acute; corolla lobes ovate-lanceolate, pubescent outside; stamens 6 or 12; ovary 6-celled, pubescent. Fruits depressed-globose, 1-2 cm in diameter, yellow-orange with black pulp; fruiting calyx reflexed, pointed, to 1 cm long; seeds brown, to 1 cm long.

GENERAL DISTRIBUTION: Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Currently known only from the Isle of Ronde, Tobago Cays, and Bequia in the Grenadines.

NOTES: A specimen from St. Vincent (*Guilding s.n.*, K) was presumably obtained from a plant introduced from Bequia by Anderson and cultivated in the Botanic Garden. A Plée specimen (P) from Martinique may also be from an introduced plant.

Diospyros revoluta Poiret *in* Lam., Encycl. **5:** 435. 1806.

Type: America meridionale, Montserrat, *Ryan s.n.* (holotype, P-LA *7279, IDC 6206. 535: II. 2, photo!; isotype, C, IDC 2201. 24: III. 5, photo!).
Syn.: *Diospyros ebenaster* auct., non Retz. (1788).
Diospyros nigra auct., non Perrottet (1825).

Tree to 20 m tall, bark nearly black, buds sericeous. Leaves with petioles 0.5-2 cm long, stout; blades elliptic to elliptic-obovate, 6-20 × 3,5-8 cm, base narrowed, apex rounded or obtuse, margin entire, thick, drying coriaceous and shiny. Staminate flowers 3 on common peduncle to 3 cm long, pedicels puberulent; pistillate flowers 1 to 3 on pedicels to 5 mm long; calyx campanulate, 4- to 6-lobed, lobes broadly ovate, thick, tawny pubescent inside; corolla urceolate, to 9 mm long, 4- to 6-lobed, lobes of staminate flowers ovate, 3-4 mm long, acute, those of pistillate flowers ovate-oblong, rounded; fertile stamens 8 to 20, staminodes 7 or 8; ovary depressed-globose, locules 8 to 12. Fruits ovoid-globose, 5-7 cm in diameter, black; fruiting calyx flat, conspicuously 4-angled and thick, 1.5 cm in diameter.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, St. Lucia!.

COMMON NAMES: Barbara, barabacoa, bois-nigresse, black apple.

NOTES: The trees on Montserrat are often free-standing in cultivated fields and obviously saved in clearing operations. The fruits are sometimes eaten, and the roots are valued as a fish poison.

The holotype specimen at P-LA, sent by M. Vahl to A. L. Jussieu, is unlabeled as to collector and specific origin. However, the isotype specimen at C clearly indicates that this collection was made by Dr. John Ryan on Montserrat.

STYRACACEAE

STYRACACEAE Dumort., Anal. Fam. Pl. 28, 29. 1829.

Trees or shrubs, often lepidote, stellate, or glabrate. Leaves alternate, petiolate, blades entire or serrate; exstipulate. Inflorescences racemose, cymose, or flowers fascicled. Flowers perfect or polygamo-dioecious; calyx tube at least partly adnate to ovary, teeth or lobes small or wanting; petals 5 or 4, more or less united, commonly imbricate; stamens 10, inserted at base of corolla, anthers introrse, longitudinally dehiscent; disk wanting; ovary superior to inferior, 5-locular or less, ovules 1 or few per locule, style slender, stigma usually lobed. Fruit a drupe or berry, indehiscent or dehiscent, usually l-seeded.

TYPE: *Styrax* L.

A family of 12 genera and 180 species of the southeastern United States, eastern Asia, and tropical America. For additional information see J. Perkins *in* A. Engler, Pflanzenr. IV. **241** (Heft 30): 1-111. 1907.

STYRAX L.

Styrax L., Sp. Pl. **1:** 444. 1753.

Trees or shrubs, all parts lepidote or stellate-tomentose. Leaves simple, entire. Inflorescences terminal, axillary, or borne below leaves, racemose;

calyx campanulate, truncate or minutely dentate; petals mostly free, imbricate or valvate; stamens with filaments flattened, anthers linear; ovary partly fused to calyx, 3-locular, style filiform. Fruits globose, hard and indehiscent or splitting into 3 valves, or drupaceous; seeds usually 1.

TYPE: *Styrax officinalis* L.

A genus of 130 species of tropical Asia and America. The generic name *Styrax L.* is being treated as of the masculine gender following D. H. Nicolson & G. C. Steyskal, Taxon **25:** 581-587. 1976. See also the conclusions of G. J. Gonsoulin (Sida **5:** 191-258. 1974) and R. A. Howard (Sida **5:** 334-337. 1974).

Styrax glaber Sw., Prodr. 74. 1788; Fl. Ind. Occid. **2:** 848. 1798.
FIGURE 32.

Type: St. Vincent, *Anderson s.n.* (holotype, BM!).
Syn.: *Morisonia imrayi* Griseb., Fl. Brit. W. Indian Is. 19. 1859. (Type: Dominica, *Imray s.n.* (holotype, BM!).)

Tree to 8 m tall, young branches lepidote. Leaves with petioles 10-15 mm long; blades lanceolate-oblong, 12-17 × 5-7 cm, base cuneate, rarely rounded, apex narrowly acuminate to bluntly acute, glabrate above, grayish lepidote-stellate beneath. Flowers with calyx cupuliform, stellate-lepidote abaxially, pilose adaxially; petals 5, lanceolate, 1.7 cm long, white, lepidote abaxially, pilose adaxially; filaments pilose below. Fruits drupaceous, ovoid to globose-ovoid, 2 cm long, 1 cm in diameter, calyx and base of style persistent.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

COMMON NAMES: Laurier-caraïbe, laurier-orange, cypre-orange, bois madame, oranger des bois, bois doré, crump wood.

NOTE: The collection *Hahn 1113* from Martinique, cited by Urban (Bot. Jahrb. Syst. **15:** 338. 1892) as this species, is a mixed collection with some specimens being *Quararibea turbinata* (Sw.) Poiret of the Bombacaceae.

SYMPLOCACEAE

SYMPLOCACEAE Desf. Mém. Mus. Hist. Nat. **6:** 9. 1820.

Trees or shrubs, usually glabrous. Leaves alternate, entire or dentate; exstipulate. Inflorescences axillary or terminal racemes or fascicles, or flowers sometimes solitary; bracts small. Flowers bisexual; calyx tube adnate to ovary, campanulate, segments 5, imbricate; corolla gamopetalous, divided to middle or nearly to base, lobes 5, imbricate; stamens numerous in 1 to 3 series inserted on corolla, free or variously united, anthers short and subglobose, 2-locular, opening lengthwise; ovary inferior or semi-inferior, 2- to 5-locular, ovules 2 to 5 per locule, pendulous on axile placentae, style slender, stigma capitate. Fruit a drupe, crowned by calyx lobes, 5- to 1-locular; seeds solitary per locule.

TYPE: *Symplocos* Jacq.

A family of 2 genera and ca. 500 species of the tropics and subtropics, excluding Africa.

SYMPLOCOS Jacq.

Symplocos Jacq., Enum. Syst. Pl. 5. 1760.

Characters of the family.

TYPE: *Symplocos martinicensis* Jacq.

A genus of 500 species of tropical areas.

KEY TO THE SPECIES

Leaves narrowly lanceolate, drying yellow-green; terminal bud and twigs glabrous; inflorescences longer than leaves; petals orbiculate, free to near base .... *S. guadeloupensis*

Leaves elliptic or oval, drying greenish-black; terminal bud and twigs sericeous pubescent; inflorescences usually shorter than petiole or barely exceeding it; lower half of petals united in a cylindrical tube .... *S. martinicensis*

Symplocos guadeloupensis Krug & Urban, Bot. Jahrb. Syst. **15:** 337. 1892.

Type: Guadeloupe, *Funck & Schlim 63.*

Small tree to 4 m tall; terminal bud and twigs glabrous. Leaves with petioles 5-10 mm long; blades lanceolate, 5-6 × 1.5-2 cm, base cuneate to petiole, apex long-attenuate, margin glandular-serrate above middle, thinly coriaceous, mostly drying a yellow-green color, glabrous. Racemes axillary, generally exceeding leaves to 6 cm; bracts 2. Flowers with calyx lobes round or ovate, glabrous but slightly ciliate; petals united only at base, orbiculate, 5-6 × 5-6 mm, white; stamens numerous, mostly free; pistil glabrous, style 3 mm long. Fruits oblong, 13-20 × 5 mm, slightly narrowed at apex, dark blue with persistent calyx lobes.

GENERAL DISTRIBUTION: Restricted to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Grenada!.

COMMON NAMES: Graines bleues des haus, bois vert, bois caco des haus.

NOTE: A single specimen collected on Nez Cassé, Guadeloupe (*Howard 19814*), from vigorous side shoots of a sterile tree of 20 feet, has leaves elliptic-ovate to 11 × 5 cm on petioles to 1.5 cm long, possibly representing the adventitious shoot development.

Symplocos martinicensis Jacq., Enum. Syst. Pl. 24. 1760; Select. Stirp. Amer. Hist. 166, *t. 175, fig. 68.* 1763. FIGURE 33.

Lectotype: Martinique, loc. cit. *t. 175, fig. 68.*
Syn.: *Symplocos apiculata* Brand *in* Engl., Pflanzenr. IV, **242** (Heft 6): 85. 1901. (Syntypes: Martinique, *Duss 2236, Funck & Schlim 64.*)
Symplocos martinicensis Jacq. var. *apiculata* (Brand) Stehlé, Bull. Soc. Bot. France **92:** 266. 1945.
Symplocos urbaniana Brand, Bull. Herb. Boissier sér. 2, **6:** 749. 1906. (Type: Guadeloupe, *Duss 4202* (holotype, B; presumably destroyed; isotype, US).)

Tree 5 to 20 m tall, buds and young twigs sericeous to puberulent. Leaves with petioles 7-15 mm long; blades elliptic, ovate, or obovate, 5-14 x 2-6 cm, base subcuneate to rounded, apex bluntly short-acuminate, margin glandular-crenate, chartaceous, drying dark brown or greenish-black, glabrous above, minutely pubescent to glabrate beneath. Inflorescences compact and few-flowered to racemose and several-flowered, slightly longer than petioles; bracts 3. Flowers with calyx lobes semiorbiculate, ciliate; corolla 9-15 mm long, tubular below middle, lobes oblong to obovate-oblong, spreading to reflexed at maturity; filaments connate to tube; ovary 3- to 5-locular, minutely pubescent, style to 10 mm long. Fruits oblong, 9-13 × 5-6 mm, bluish-black.

GENERAL DISTRIBUTION: Puerto Rico, Virgin Islands, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Saba!, St. Eustatius!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Bois blanc, caca-rat, graines bleues, white beech, z'olive, pruneau.

NOTES: An isotype of *Symplocos urbaniana* Brand reveals a specimen with a short axillary inflorescence that in no other way differs from the variation represented in other specimens of *S. martinicensis* Jacq.

Symplocos glabra Euphrasen (Beskr. 22. 1798 (ed. Germ.)) from St. Kitts, was reported to be in "herb. Ups.," but a specimen cannot be located. The single-flowered axillary peduncles suggest this may be referable to *S. martinicensis* Jacq.

OLEACEAE

OLEACEAE Hoffsgg. & Link, Fl. Portug. **1:** 385. 1813-1820.

Trees, shrubs, or vines. Leaves opposite, rarely alternate, petiolate; blades simple or pinnate; exstipulate. Inflorescences panicles, cymes, or fascicles. Flowers perfect or plants dioecious; calyx small or wanting or lobes well-developed; corolla tubular or wanting, tube short or equaling lobes; stamens 2 or 4, filaments free, anthers oblong or linear, longitudinally dehiscent,

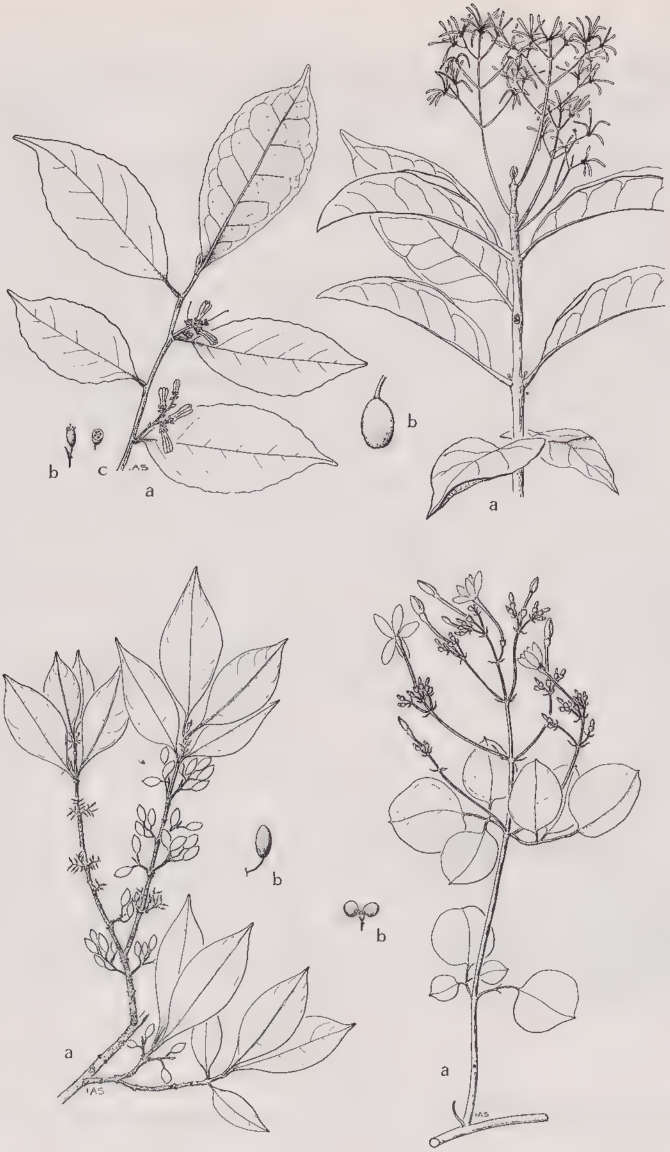


Figure 33 (upper left). *Symplocos martinicensis*: a, flowering branch, × 0.35; b, fruit, × 0.35; c, cross section of fruit, × 0.35. Figure 34 (upper right). *Chionanthus compacta*: a, flowering branch, × 0.35; b, fruit, × 0.35. Figure 35 (lower left). *Forestiera rhamnifolia*: a, flowering and fruiting branch, × 0.35; b, fruit, × 0.35. Figure 36 (lower right). *Jasminum fluminense*: a, flowering branch, × 0.35; b, fruit, × 0.35.

connective sometimes extended; ovary superior, 2-celled, ovules few or only 2 per locule, style short or wanting. Fruit baccate, drupaceous or a samara.

TYPE: *Olea* L.

A cosmopolitan family of 25 genera and perhaps 900 species, but abundant in temperate and tropical areas of the Old World.

CULTIVATED TAXA

Fraxinus excelsior L. has been planted on St. Lucia as a potential timber tree. *Fraxinus ornus* L. and *Fraxinus rotundifolia* Miller were once cultivated on St. Vincent.

Ligustrum ovalifolium Hassk., *Ligustrum sinense* Lour. and *Ligustrum vulgare* L. have been cultivated in the area. A variegated form unidentified to species has been used around some hotels.

Noronhia emarginata (Lam.) Thouars, native to Madagascar, is cultivated on Dominica as the "French genip" and on St. Kitts as the "White man's genip."

Nyctanthus arbor-tristis L. has been seen under cultivation in the French islands. The genus properly belongs in the Verbenaceae.

Olea europea L. Cultivated historically and currently as an ornamental tree, but not known to set fruit.

Osmanthus fragrans Lour. Said to be in some private gardens. Anderson considered the flowering tree successful in the Botanic Garden on St. Vincent.

KEY TO THE GENERA

1. Corolla tube conspicuous, often longer than lobes, lobes 5 to 9 or flowers double; often scrambling or climbing vines; leaves pinnate, trifoliate, or simple; fruits berrylike, often black . . . . *Jasminum*
1. Corolla tube much shorter than lobes, or petals wanting; trees or shrubs; leaves simple; fruits drupaceous, usually blue.
    2. Flowers perfect, in panicles; petals conspicuous, white; anthers oblong, equaling or exceeding the short filaments . . . . *Chionanthus*
    2. Flowers unisexual, generally in short axillary racemes; petals minute or wanting; anthers much shorter than slender filaments . . . . *Forestiera*

CHIONANTHUS L.

Chionanthus L., Sp. Pl. **1:** 8. 1753.

Syn.: *Mayepea* Aublet, Hist. Pl. Guiane **1:** 81. 1775, nom. rejic. Type: *Mayepea guianensis* Aublet.

Linociera Sw. ex Schreber, Gen. Pl. **2:** 784. 1791, nom. cons. Type: *Linociera ligustrina* (Sw.) Sw., based on *Thouinia ligustrina* Sw.

Trees or shrubs. Leaves petiolate; blades simple, coriaceous, commonly with domatia in axils of veins beneath. Inflorescences paniculate. Flowers perfect with calyx small, 4-cleft or 2-toothed; petals 4, narrow, distinct or slightly united at base, white; stamens 2 or 4, filaments short, anthers linear to ovate; ovary 2-celled, ovules 2 per locule, style short, stigma oblong. Fruit an oblong drupe, fleshy part thin.

TYPE: *Chionanthus virginica* L.

A genus of ca. 100 species of eastern Asia and eastern North America, as well as tropical Africa, Asia, and America. The union of *Chionanthus* and *Linociera* was proposed by W. T. Stearn, Ann. Misssouri Bot. Gard. **63:** 355-357. 1976.

KEY TO THE SPECIES

Petals involute; connective extended well beyond anther sacs and pointed at apex .... *C. compacta*
Petals flat; connective barely extended beyond anther sacs, blunt at apex....... .... *C. dussii*

Chionanthus compacta Sw., Prodr. 13. 1788; Fl. Ind. Occid. **1:** 22. 1797 (as "Chionanthus caribaea"). FIGURE 34.

Syntypes: St. Croix, *von Rohr s.n.*; Nevis, *Masson s.n.* (BM).
Syn.: *Chionanthus caribaea* Jacq., Collectanea, **2:** 110, *t. 6, fig. 1.* 1789. (Type: Martinique, no specimens located.)
Linociera compacta (Sw.) Roemer & Schultes, Syst. Veg. **1:** 266. 1817.
Mayepea caribaea (Jacq.) Kuntze, Revis. Gen. Pl. **2:** 411. 1891.
Linociera caribaea (Jacq.) Knobl., Bot. Centralbl. **61:** 87. 1895.

Trees or occasionally shrubs 5-12 m tall. Leaves with petioles to 15 mm long; blades oblong to elliptic-lanceolate, 8-15 × 3.5-6 cm, base cuneate, apex acuminate, margin entire, coriaceous, commonly curved and folded, glabrous. Panicles axillary, peduncled. Flowers sessile; calyx densely pilose; petals involute, 8-15 × 0.5 mm, white; connective prolonged beyond anther sacs, pointed at apex. Drupes ovoid, 15-25 mm long, blue-black.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Virgin Islands, Trinidad, Venezuela, Colombia.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, St. Eustatius!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Wild olive, white ironwood, buckbill, bois de fer, bois de fer blanc, mountain parry.

Chionanthus dussii (Krug & Urban) Stearn, Ann. Missouri Bot. Gard. **63:** 357. 1976.

Basionym: *Mayepea dussii* Krug & Urban, Bot. Jahrb. Syst. **15:** 347. 1892.
Type: Martinique, *Duss 338* (holotype, B, presumably destroyed; isotypes, K!, NY!).
Syn.: *Linociera dussii* (Krug & Urban) Knobl., Bot. Centralbl. **61:** 87. 1895.

Small trees. Leaves with petioles 1-1.5 mm long; blades ovate to elliptic-lanceolate, 10-14 × 4-6 cm, base cuneate, apex acuminate, margin entire, coriaceous, glabrous. Panicles axillary. Flowers sessile to subsessile; calyx lobes broadly ovate-triangular, pubescent; petals flat, linear-oblong, 12-17

× 1-1.25 mm; anthers oval, slightly exserted, connective produced as a knob. Drupes subglobose, 2 cm in diameter, slightly apiculate.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Dominica!, Martinique!.

Common names: Acomat du pays, grembley.

FORESTIERA Poiret

Forestiera Poiret *in* Lam., Encycl. Suppl. **1:** 132. 1810.

Syn.: *Adelia* P. Browne, Civ. Nat. Hist. Jamaica 361, *t. 36, fig. 3.* 1756, nom. rejic. (Type: *Borya cassinoides* Willd.)

Dioecious shrubs or small trees. Leaves petiolate; blades simple, pinnately veined with peltate glands, deciduous. Inflorescences axillary, often below leaves, simple or compound cymes or appearing as fascicles. Flowers with calyx generally absent or of 4 irregular, free sepals; corolla absent; stamens 2 or 4, with anthers much shorter than the slender filaments; ovary superior, 2-locular, ovules 2 per locule, style short, terete, stigma capitate. Fruits drupaceous, dark blue or black, often with a bloom; seed 1.

Type: *Borya cassinoides* Willd. = *Forestiera segregata* (Jacq.) Krug & Urban. For the most recent discussion of typification see R. L. Wilbur, Rhodora **83:** 465-470. 1981.

A genus of 15 species of southeastern United States, Mexico, West Indies and South America?.

Note: When published, *Forestiera* was illegitimate as a substitute name for *Adelia* P. Browne. Although *Adelia* L. is now conserved against *Adelia* P. Browne, a strict interpretation of Art. 6.4 means *Forestiera* must be proposed for conservation. P. S. Green is preparing such a proposal (pers. comm.).

Key to the Species

1. Margins of mature leaves mostly serrulate, at least at apex, not thickened or revolute; calyx present; style usually less than 1 mm long.
    2. Leaves 1.7-3.7 × 0.8-1.5(-2) cm; twigs puberulent; inflorescence axes 5-7 mm long . . . . *F. eggersiana*
    2. Leaves 4-11 × 1.75-5.2 cm; twigs glabrous; inflorescence axes 8-20 mm long . . . . *F. rhamnifolia*
1. Margins of leaves entire, thickened and usually slightly revolute; apex of blade obtuse or rounded; calyx usually absent; style > 1 mm long. . . . . *F. segregata*

Forestiera eggersiana Krug & Urban, Bot. Jahrb. Syst. **15:** 339. 1892.

Type: St. Thomas, Cowell's Hill, *Eggers ed. Toepff. 157* (isotype, K!).

Shrub or small tree to 5 m tall; twigs puberulent. Leaves with petioles 1.5-3 mm long, glabrous; blades narrowly elliptic, ovate, or lanceolate, 1.7-3.7 ×

0.8-1.5(-2) cm, base acute to acuminate, apex obtuse or rounded, margin irregularly and obscurely serrulate or crenulate, chartaceous to thinly coriaceous. Inflorescences 5- to 9-flowered with axes 5-7 mm long; bractlets elliptic, 1.5-2.5 mm long, fimbriate. Flowers with 2 or 4 irregular, lacerate sepals, to 1 mm long; style usually < 1 mm long. Drupes ellipsoid, 7-12 mm long.

GENERAL DISTRIBUTION: Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!.

Forestiera rhamnifolia Griseb., Cat. Pl. Cub. 169. 1866. FIGURE 35.

Type: Cuba, *Rugel 792* (lectotype, GOET!).
Syn.: *Forestiera rhamnifolia* Griseb. var. *martinicensis* Krug & Urban, Bot. Jahrb. Syst. **15:** 338. 1892. (Type: Martinique, *Duss 640* (isotypes, K!, NY!).)

Shrub or small tree to 12 m tall; twigs glabrous. Leaves with petioles 4-8 mm long, glabrous; blades elliptic to ovate, sometimes obovate or nearly orbiculate, 4-11.5 × 1.75-5.2 cm, base attenuate, apex acuminate, margin irregularly serrulate or crenate above middle, coriaceous to thickly chartaceous. Inflorescences 5- to 11-flowered with axes 8-20 mm long; bractlets elliptic, 2-4 mm long. Flowers with 4 or 5 irregular, lacerate sepals, 0.3-1 mm long; style usually < 1 mm long. Drupes ellipsoid to obovoid, essentially straight, 9-12 mm long, blue-black.

GENERAL DISTRIBUTION: Cuba, Jamaica, Mexico, Central America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Caca-ravet, graine bleue bâtard.

Forestiera segregata (Jacq.) Krug & Urban, Bot. Jahrb. Syst. **15:** 339. 1893.

Basionym: *Myrica segregata* Jacq., Collectanea **2:** 273. 1789; Icon. Pl. Rar. **3:** *t. 625.* ?1788.
Type: Cultivated Hort. Schönbrunn ex "America calidiore," *Jacquin s.n.* (specimen not located).

Shrub or tree to 7.5 m tall. Leaves with petioles 1-6 mm long; blades variable, narrowly elliptic to elliptic-ovate, obovate, oblanceolate, or narrowly rhombic and sometimes falcate, 1-7.5 × 0.3-2.9 cm, base cuneate to attenuate, apex rounded, obtuse, or acute, rarely acuminate, margin entire, thickened, revolute, chartaceous to coriaceous. Inflorescences often appearing fascicled, 3- to 11-flowered with axes 4-13 mm long; bractlets elliptic, 2-3 mm long, fimbriate. Flowers with calyx usually absent; style > mm long. Drupes ellipsoid, slightly curved, 7-14 mm long, blue-black.

GENERAL DISTRIBUTION: Bahamas, coastal Florida and Georgia, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Barbuda!, Antigua!, La Désirade!, Marie Galante!.

NOTE: Populations of this species vary greatly in general appearance and in size, shape, and coloration of the leaves. It is quite possible that *F. eggersiana* is only a variant within this complex.

JASMINUM L.

Jasminum L., Sp. Pl. **1:** 7. 1753.

Shrubs or woody vines. Leaves opposite, rarely alternate, petiolate; blades simple, trifoliolate, or pinnate. Inflorescences cymose-paniculate, or flowers clustered or solitary. Flowers perfect, fragrant; calyx lobed; corolla salverform, tube cylindric, lobes 5 to 9 or more if flowers are double, imbricate; stamens 2, included in tube; ovary 2-celled, style slender, stigma capitate or 2-lobed. Fruits berries, commonly 2-lobed, often black.

TYPE: *Jasminum officinale* L.

A genus of 200 species of the Old World tropics and subtropics, introduced and cultivated for its attractive flowers and pleasant aroma, and persisting after cultivation in the Lesser Antilles. For additional information see P. S. Green, Baileya **13:** 137-172. 1965, and Kew Bull. **23:** 273-275. 1969.

NOTE: *Jasminum elongatum* (Bergius) Willd. (as *J. amplexicaule* Don), *J. humile* L., and *J. mesyni* Hance have been reported from the area but not supported with herbarium specimens.

KEY TO THE SPECIES

1. Leaves imparipinnate, leaflets usually 7 .... *J. grandiflorum*
1. Leaves simple or trifoliolate.
   2. Leaves simple or unifoliolate.
      3. Calyx lobes linear to filiform, spreading at anthesis .... *J. laurifolium* f. *nitidum*
      3. Calyx lobes broader, erect at anthesis.
         4. Leaves ovate, base cordate to subtruncate; calyx lobes pubescent .... *J. multiflorum*
         4. Leaves elliptic to broadly elliptic, base usually cuneate to rounded; calyx lobes slightly pubescent; flowers often double .... *J. sambac*
   2. Leaves trifoliolate .... *J. fluminense*

Jasminum fluminense Vell. Conc., Fl. Flumin. 10. 1829. FIGURE 36.

Type: Vell. Conc., Icones Fl. Flumin. **1:** *t. 23.* 1831.
Syn.: *Jasminum azoricum* sensu Urban, Britton and auct., non L. (1753).

Slender vine, stems to 4 m long. Leaves with petioles 1-2 cm long; leaflets 3, ovate, 2-5 × 2-4 cm, base subtruncate or narrowed, apex acute or obtuse, terminal leaf long-stalked, lateral leaflets shorter, glabrate. Cymes loose, several-flowered. Flowers with calyx 3 mm long, teeth short; corolla tube 1.5-2.5 cm long, lobes oblong, 1 x 0.5 cm, apex acute, white. Berries globose, 1 cm in diameter, blue.

GENERAL DISTRIBUTION: Native of Africa but first described from the New World and widely distributed in the tropics.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

COMMON NAMES: Jasmin à bouguet, jasmin blanc.

Jasminum grandiflorum L., Sp. Pl. ed. 2, **1:** 9. 1762.

Type: LINN 17.2.

Climbing or spreading shrub to 5 m tall. Leaves imparipinnate, leaflets usually 7, terminal one largest, ovate-lanceolate, 3-6 × 0.9-1.5 cm, base decurrent, apex long-acuminate, laterals ovate to ovate lanceolate, 1.5-2 × 1 cm, base truncate to decurrent, apex acute to short-acuminate. Cymes terminal. Flowers with calyx lobes ascending, linear, to 0.8 mm long; corolla tube 1.5 cm long, lobes 4 or 5, ovate-oblong, 1 cm long, to 7 mm wide, apex acute, white. Fruits not seen.

GENERAL DISTRIBUTION: Native of Arabia but widely cultivated in the tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Montserrat!, Guadeloupe!, Martinique!, St. Lucia!.

COMMON NAMES: Jasmin odorant, jasmin royal.

Jasminum laurifolium Roxb. forma **nitidum** (Skan) P. Green, Kew Bull. **39:** 656. 1984.

Basionym: *Jasminum nitidum* Skan, Bull. Misc. Inform. **1898:** 225. 1898. (Type: Cultivated, *W. Bull s.n.*, (holotype, K!).)

Syn.: *Jasminum undulatum* sensu Duss, Fl. Phan. Antill. Franç. 392. 1897, non Ker Gawler (1820).

Freely branched shrub to 1 m tall, branches puberulent. Leaves simple, ovate to ovate-lanceolate, 3-8 × 1-3 cm, base cuneate to rounded, apex long-acuminate. Cymes terminal or axillary, few-flowered. Flowers with calyx lobes linear to filiform, 1 cm long, spreading, pubescent; corolla tube to 2 cm long, lobes 5 to 7, linear-lanceolate, 2 cm long, 2 mm wide, white. Berries globose, to 0.5 cm in diameter, blue-black.

GENERAL DISTRIBUTION: Originally, but falsely, said to be native of the Admiralty islands, but actually of Asiatic origin. Now cultivated, especially in tropical areas, often becoming weedy.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Martinique!, St. Vincent!.

COMMON NAME: Jasmin blanc.

Jasminum multiflorum (Burman f.) Andrews, Bot. Repos. **8:** *t. 496.* 1807.

Basionym: *Nyctanthes multiflora* Burman f., Fl. Indica 5, *t. 3, fig. 1.* 1768.
Type: Java?, *Kleynhoff s.n.* (n.v., but probably at G-DEL).
Syn.: *Nyctanthes pubescens* Retz., Observ. Bot. **5:** 9. 1788. (Type: India, *König s.n.* (n.v.).)
Jasminum pubescens (Retz.) Willd., Sp. Pl. **1:** 37. 1797.

Shrub to 2 m tall, branches densely tomentose. Leaves with petioles 4-6 mm long; blades simple, ovate, 3-5 × 3-7 cm, base cordate to subtruncate, apex acute, pubescent to glabrate above, pubescent beneath. Cymes sessile, dense, few- to several-flowered. Flowers with calyx lobes linear, 1 cm long, erect, pubescent; corolla tube to 2 cm long, lobes linear, 2-2.5 mm wide, apex acute. Fruits not seen.

GENERAL DISTRIBUTION: Native of Asia but widely cultivated in the tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!; Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAME: Jasmin dos haies.

Jasminum sambac (L.) Sol. *in* Aiton, Hort. Kew. **1:** 8. 1789.

Basionym: *Nyctanthes sambac* L., Sp. Pl. **1:** 6. 1753.
Type: Hort. Cliff. (holotype, BM!).

Shrub 1-2 m tall. Leaves simple, elliptic to broadly elliptic, 3.5-8 × 3-5.5 cm, base cuneate to rounded, apex acute and minutely apiculate, mostly glabrous but with clusters of hairs or domatia in axils of veins. Inflorescences terminal stalked cymes. Flowers white; calyx lobes linear, to 1 cm long, erect, slightly pubescent; corolla tube to 1 cm long, lobes 5 or numerous and the flowers double, ovate-oblong, 1-1.3 × 0.4-0.6 cm, apex obtuse. Fruits not seen.

GENERAL DISTRIBUTION: Native of India but widely cultivated in the tropics for its pleasant aroma. Poorly represented by herbarium specimens.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Barbados!.

COMMON NAMES: Jasmin double, jasmin d'Arabie.

LOGANIACEAE

LOGANIACEAE C. Martius, Nov. Gen. Sp. Pl. **2:** 133. 1827.

Herbs native in our area, shrubs, trees, or vines elsewhere. Leaves opposite or verticillate, petiolate or sessile; blades entire, often strongly pinnate-veined, membranaceous; stipules small or leaf bases joined by stipular line or membrane. Inflorescences axillary or terminal, simple spikes or branched dichasia. Flowers with calyx fused at base, deeply lobed; corolla gamopetalous, campanulate or urceolate, rarely rotate, lobes imbricate or valvate; stamens 5, inserted on tube or throat of corolla, anthers longitudinally dehiscent; ovary superior, 2-locular, ovules numerous on peltate placentae, styles short, sometimes united by stigmas. Fruits capsular; seeds small.

TYPE: *Logania* R. Br., nom. cons.

In the traditional sense, a heterogeneous family of 28 genera and nearly 700 species of diverse habit, anatomy, corolla aestivation, and seed structure. In a strict sense, 7 genera and 130 species with the recognition of the Spigeliaceae for the genera treated here, and the Buddlejaceae and Potaliaceae for the two genera cultivated in the area; mostly tropical. See also A. J. M. Leeuwenberg, Acta Bot. Neerl. **20:** 539-542. 1971.

CULTIVATED SPECIES

Buddleia americana L. was cultivated the at St. Pierre Botanic Garden in 1857 (*Belanger 741 P*). *Buddleia davidii* Franchet, *B. lindleyana* Fortune, and *Fagraea littoralis* Blume have been cultivated in botanical gardens.

KEY TO THE GENERA

Corolla funnelform; styles united; capsules tuberculate, circumscissile . . . *Spigelia*
Corolla urceolate; styles distinct; capsules smooth, apically dehiscent . . . *Mitreola*

MITREOLA L.

Mitreola L., Opera Var. 214. 1758.

Syn.: *Cynoctonum* J. Gmelin, Syst. Nat. **2:** 443. 1791. (Lectotype: *Cynoctonum sessilifolium* J. Gmelin, based on *Anonymos sessifolia* Walter; vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed 2, **2:** 730. 1913.)

Herbs. Leaves opposite with short petioles; stipules minute, or leaf bases connected with stipular line. Inflorescences axillary or terminal, cymose, flowers in one-sided spikes. Flowers with calyx 5-parted; corolla urceolate, 5-lobed, lobes imbricate; stamens attached to corolla tube, filaments short, anthers cordate at base; ovary glabrous, styles short, free below, united above. Capsules 2-lobed at apex, dehiscent at upper end of inner face; seeds numerous, minute, strongly longitudinally sulcate, tuberculate.

TYPE: *Ophiorrhiza mitreola* L. = *Mitreola petiolata* (J. Gmelin) Torrey & A. Gray.

A genus of 6 species of Madagascar, Indomalaysia, Australia, and America. For additional information see A. J. M. Leeuwenberg, Meded. Landbouwhogeschool **74-23:** 1-28. 1974.

Mitreola petiolata (J. Gmelin) Torrey & A. Gray, Fl. N. Amer. **2:** 45. 1841.
FIGURE 37.

Basionym: *Cynoctonum petiolatum* J. Gmelin, Syst. Nat. **2:** 443. 1791.
Type: Based on *Anonymos petiolata* Walter, Fl. Carol. 108. 1788, but supporting specimen not located.
Syn.: *Ophiorrhiza mitreola* L., Sp. Pl. **1:** 150. 1753. (Type: LINN 211.5.)
Cynoctonum mitreola (L.) Britton, Mem. Torrey Bot. Club **5:** 258. 1894.

Annual herb to 60 cm tall; stems glabrous. Leaves with petioles 1-2 mm long; blades lanceolate to ovate, 2.5-8 × 0.6-2.5 cm, base narrowed or cuneate, apex acute, glabrous. Inflorescences terminal and axillary; peduncles slender, to 9 cm long, cymose branches 3-5 cm long. Flowers with calyx lobes acute; corolla 2 mm long, white, pilose in throat. Capsules ovoid, deeply 2-lobed, the lobes widely diverging, acute; seeds minute, 0.5 mm long.

GENERAL DISTRIBUTION: Southeastern United States, Greater Antilles, Trinidad, Mexico, Central America, northern South America, west tropical Africa.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Les Saintes!, St. Lucia!.

COMMON NAME: Milles-graines.

SPIGELIA L.

Spigelia L., Sp. Pl. **1:** 149. 1753.

Herbs. Leaves opposite; stipules small or leaf bases connected by stipular line. Inflorescences terminal or axillary cymes, branches scorpioid. Flowers with calyx deeply 5-parted; corolla funnelform, 5-lobed, lobes valvate; stamens inserted on corolla tube, anthers 2-lobed at base; ovary ovoid, styles filiform, jointed near middle, stigma obtuse. Capsules 2-lobed, 2-locular, circumscissile leaving cartilaginous 2-lobed cupule, tuberculate; seeds small.

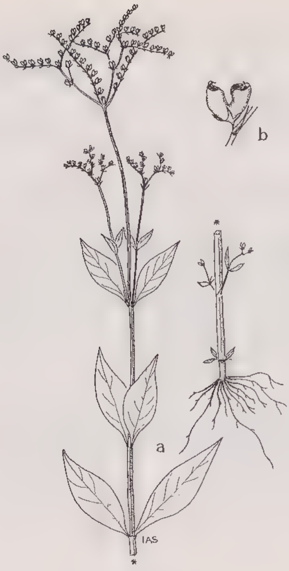
TYPE: *Spigelia anthelmia* L.

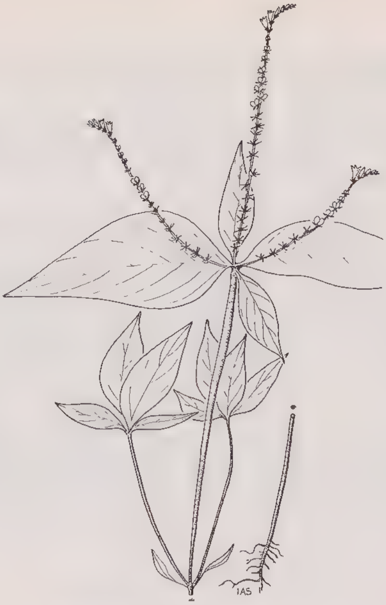
A genus of about 50 species of tropical America. For additional information see A. J. M. Leeuwenberg, Acta Bot. Neerl. **10:** 460-465. 1961.

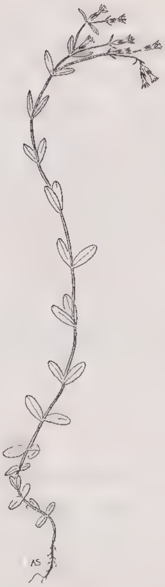
Spigelia anthelmia L., Sp. Pl. **1:** 149. 1753. FIGURE 38.

Type: Hortus Uppsala, LINN 210.2.

Annual herb, strict or branched, to 50 cm tall. Leaves seemingly verticillate through very short internodes; petioles 0-2 mm long; blades ovate-lanceolate, 4-18 × 2-5 cm, base rounded and cuneate, apex acute or acuminate, margin minutely ciliolate. Inflorescences terminal or axillary, scorpioid branches 5-12 cm long. Flowers with calyx lobes narrowly lanceolate, 2 mm long; corolla 5-9 mm long, purplish-white or pink; ovary globose, style 3 mm long. Capsules broadly ovoid, 5-6 mm wide, tuberculate or muricate above; seeds numerous, 2-3 mm long.







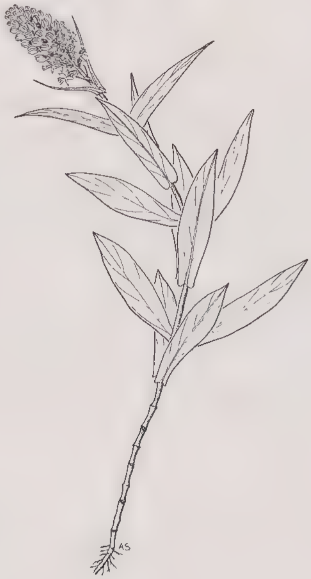


FIGURE 37 (upper left). *Mitreola petiolata*: a, habit, × 0.35; b, fruit, × 2.0. FIGURE 38 (upper right). *Spigelia anthelmia*: × 0.35. FIGURE 39 (lower left). *Centaurium pulchellum*: × 0.35. FIGURE 40 (lower right). *Coutoubea spicata*: × 0.35.

General distribution: Bahamas, Greater Antilles, Mexico, Central America, northern South America.

Distribution in Lesser Antilles: Anguilla!, St. Martin, Antigua!, Saba, St. Eustatius, St. Kitts!, Montserrat!, Guadeloupe!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, the Grenadines!, Barbados!.

Common names: Brinvilliers, brin villier.

Note: Anderson noted in his Hortus that this plant was the most effective treatment for worms, but that it was dangerous to use. It is still regarded as a very toxic plant throughout the Lesser Antilles.

GENTIANACEAE

GENTIANACEAE A. L. Juss., Gen. Pl. 141. 1789.

Herbs or weak shrubs, some saprophytic and lacking chlorophyll. Leaves opposite, petiolate or sessile; blades entire, glabrous, occasionally reduced to scales; exstipulate. Inflorescences terminal or axillary dichasia, cymes, spikes, fascicles, or flowers solitary. Flowers regular, perfect; calyx 4- or 5-lobed, persistent; corolla tubular or campanulate, 4- or 5-lobed; stamens alternate with corolla lobes, attached in tube or at throat; ovary superior, 1- or 2-locular, ovules numerous on large placentae, style 1, filiform, stigma 2-lobed or capitate. Fruits capsular, longitudinally dehiscent by valves, the margins recurling or inrolled in characteristic manner; seeds many.

Type: *Gentiana* L.

A family of 80 genera and over 100 species occurring worldwide from coastal sands to montane areas.

Key to the Genera

1. Plants without chlorophyll, leaves scalelike; flowers yellow, or white with blue lobes . . . . . . *Voyria*
1. Plants green, leaves normal.
    2. Flowers clustered in leaf axils, white . . . . . . *Enicostema*
    2. Flowers in terminal inflorescences.
        3. Inflorescences spicate; flowers white . . . . . . *Coutoubea*
        3. Inflorescence in cymes or dichasia, not spicate; flowers yellow to green or pink.
            4. Flowers yellow to green . . . . . . *Irlbachia*
            4. Flowers pink . . . . . . *Centaurium*

CENTAURIUM Hill

Centaurium Hill, Brit. Herb. 62. 1756.

Annual or biennial herbs, stems strict or branched, commonly with basal rosette of leaves. Stem leaves opposite, subsessile, membranaceous. Inflorescences terminal, cymose. Flowers small, pink; calyx tubular, 4- or 5-lobed, lobes narrow, keeled; corolla salverform, 4- or 5-lobed, lobes spreading; stamens 4 or 5, attached in tube, filaments filiform, anthers becoming spirally twisted, pollen in monads; ovary 1-locular, style filiform, stigmas 2-lobed. Capsules 2-valved; seeds numerous, small, testa reticulate.

TYPE: *Gentiana centaurium* L. = *Centaurium littorale* (Turner) Gilmour.

A genus of 40 to 50 species almost cosmopolitan. In the Lesser Antilles it occurs as an adventive.

Centaurium pulchellum (Sw.) Druce, Fl. Berkshire 342. 1898.
FIGURE 39.

Basionym: *Gentiana pulchella* Sw., Kongl. Vetensk. Acad. Nya Handl. 84, *t. 3, fig. 8, 9.* 1783.
Type: Not determined.

Herb, usually simple-stemmed to 25 cm tall. Leaves of flowering stems subsessile, elliptical, 12-16 × 3-6 mm, base cuneate, apex obtuse to acute, glabrous. Cymes loose, few- to many-flowered. Flowers with calyx lobes linear, 5-6 mm long; corolla tube 6-7 mm long, lobes oblong, commonly inrolled, 4 × 1-2 mm, apex truncate and erose. Capsules linear, 7 × 1 mm, splitting from apex.

GENERAL DISTRIBUTION: Bahamas, Cuba, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Nevis!.

NOTE: The record of this species from Barbados (Gooding et al., 1965) cannot be verified.

COUTOUBEA Aublet

Coutoubea Aublet, Hist. Pl. Guiane **1:** 72. 1775.

Erect herbs. Leaves opposite or in whorls of 3, sessile or clasping the stem. Inflorescences terminal spikes or racemes. Flowers sessile or short-stalked, white; calyx deeply 4-lobed, lobes acuminate, keeled, membranaceous at margin, subtended by 3 bracts; corolla tube cylindric, more or less equaling the corolla lobes, lobes 4, spreading, narrow; stamens 4, inserted in tube, pollen in tetrads; ovary 1-locular, style filiform, stigma 2-lobed. Capsules 2-valved; seeds lightly pitted and reticulate.

TYPE: *Coutoubea spicata* Aublet.

A genus of 5 species of the Lesser Antilles and northern South America. For additional information see E. F. Guimarães & V. L. G. Klein, Rodriguesia **37:** 21-45. 1985.

Coutoubea spicata Aublet, Hist. Pl. Guiane **1:** 72, *t. 27.* 1775.
FIGURE 40.

Type: Guiana, *Aublet s.n.* (holotype, P-R **3:** 114).
Syn.: *Cutubea densiflora* C. Martius, Nov. Gen. Sp. Pl. **2:** 111, *t. 185.* 1827. (Type: loc. cit. *t. 185.*)

Annual herb 30-90 cm tall. Leaves oblong-lanceolate, 5-8 × 1-2.5 cm, base hastate-clasping, apex acute or acuminate, or rarely rounded. Inflorescences congested spikes. Flowers sessile, subtended by awl-shaped bract and 2 bracteoles; calyx 6 mm long, lobes acuminate; corolla 12-16 mm long, lobes 6-8 mm long, acuminate, white; stamens exserted. Capsules 6 mm long; seeds minute.

GENERAL DISTRIBUTION: Trinidad, Tobago, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, St. Vincent!.

COMMON NAME: Muguet-savane.

NOTE: Alexander Anderson in his unpublished Hortus noted, "This plant is a native on the margins of creeks in the interior parts of Guiana, from whence I brought the seeds to the Garden."

ENICOSTEMA Blume

Enicostema Blume, Bijdr. 848. 1826, nom. cons.

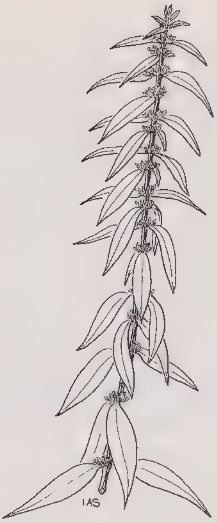
Glabrous herbs, strict or branched at base. Leaves lanceolate, fleshy, triplinerved. Inflorescences axillary, subsessile clusters. Flowers small, white; calyx narrowly campanulate, deeply 5-lobed, lobes lanceolate, not keeled; corolla tube cylindrical, lobes 5; stamens 5, filaments flattened, bearing appendages at base, connective with apical appendage, pollen in monads; ovary 1-locular, style filiform, stigma subglobose. Capsules oblong, 2-valved; seeds finely pitted.

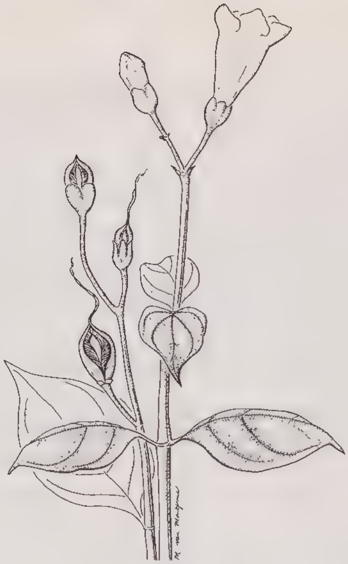
TYPE: *Enicostema littorale* Blume = *Enicostema axillare* (Lam.) A. Raynal ssp. *littorale* (Blume) A. Raynal.

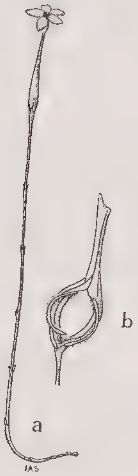
A genus of 3 species, one in the West Indies, one in Madagascar, and one in tropical Africa, India, and Java. For further information see A. Raynal, Adansonia ser. 2, **9:** 57-85. 1969.

Enicostema verticillatum (L.) Engl. ex Gilg *in* Engl. & Prantl, Nat. Pflanzenfam. IV, **2:** 67. 1895.
FIGURE 41.

Basionym: *Gentiana verticillata* L., Syst. Nat. ed. 10, **2:** 952. 1759.
Lectotype: Illustration in Plumier mss. (P) ex Raynal.







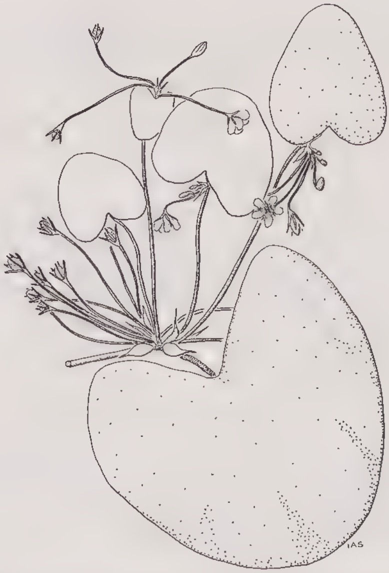


FIGURE 41 (upper left). *Enicostema verticillatum*: × 0.4. FIGURE 42 (upper right). *Irlbachia frigida*: × 0.4. FIGURE 43 (lower left). *Voyria aphylla*: a, flowering stem, × 0.4; b, dehisced fruit, × 3.0. FIGURE 44 (lower right). *Nymphoides indica*: × 0.4.

Syn.: *Slevogtia occidentalis* Griseb. *in* DC., Prodr. **9:** 65. 1845, nom. illegit. citing *Gentiana verticillata* L.
Centaurium verticillatum (L.) E. H. Krause, Beih. Bot. Centralbl. **32:** 341. 1914.

Herb to 60 cm tall; stems sharply angled and serrate on angles. Leaves lanceolate, 3-10 × 1-2 cm, narrowed to short-winged petioles at base, apex long-acuminate to acute, venation acrodromous, conspicuously 3-nerved, glabrous. Flowers with calyx lobes awl-shaped, 5 mm long; corolla 7 mm long, lobes acute, 1.5 mm long, scarcely spreading; apex of connective with filiform appendage ca. half length of anther. Capsules to 5 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Central America, Trinidad, Tobago, northern Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Balai-savane, balai-savane bâtard, lang poul, langue poule.

IRLBACHIA C. Martius

Irlbachia C. Martius, Nov. Gen. Sp. Pl. **2:** 101. 1827.

Herbs, usually strict. Leaves opposite, blades decurrent on petioles and confluent at nodes, the upper subsessile, glabrous. Inflorescences terminal many-flowered dichasia, 1- to several-branched. Flowers with calyx cup-shaped, basally fused, outer surface of each lobe with large nectar gland; corolla infundibuliform, tube exceeding calyx, flaring above, lobes broadly ovate-triangular to cordate, acute to obtuse, greenish-yellow; stamens 5, inserted in corolla tube from base to middle, anthers sagittate-lanceolate, pollen in globular polyads, spiny; ovary 2-locular, style stout, terete, elongate, stigma 2-lobed, lobes oblong. Capsules woody, septicidally dehiscent, crowned by persistent style; seeds small, prismatic, alveolate.

TYPE: *Irlbachia elegans* C. Martius = *Irlbachia nemorosa* (Willd. ex Roemer & Schultes) Merr.

A genus of 17 species of Mexico, Central America, and tropical South America.

Maguire and Boom (Mem. New York Bot. Gard. **51:** 2-46. 1989) treat "the Guyanan genera of Gentianaceae with pollen in tetrads," reaching a far different conclusion on classification and relationships than did Maas, whose paper and advice were sought for the following treatment. The two species of the Lesser Antilles, *Irlbachia alata* and *Irlbachia frigida*, are treated as *Chelonanthus alatus* and *Wurdackanthus frigidus*, respectively, by Maguire and Boom. Neither the key to genera supplied (l.c. 3) nor the discussion of *Wurdackanthus* (l.c. 8, 9) applies accurately to a generic separation of the Lesser Antillean species.

KEY TO THE SPECIES

Leaves chartaceous; pedicels to 0.7 cm long; calyx lobe/tube ratio 1.5 to 3; corona absent . . . . *I. alata*

Leaves subcoriaceous; pedicels 1-7.5 cm long; calyx lobe/tube ratio less than 1.5; base of stamens with corona . . . . *I. frigidus*

Irlbachia alata (Aublet) P. Maas ssp. **alata**, Proc. Kon. Ned. Akad. Wetensch., Ser. C **88:** 408. 1985.

Basionym: *Lisyanthus alatus* Aublet, Hist. Pl. Guiane **1:** 204, *t. 80.* 1775.
Type: Guiana, *Aublet s.n.* (LINN-SM 291.4, P-R 7: 258).
Syn.: *Lisianthus chelonoides* L. f., Suppl. Pl. 134. 1782, nom. illegit. citing *Lisianthus alatus* Aublet.
Chelonanthus chelonoides (L. f.) Gilg *in* Engl. & Prantl, Nat. Pflanzenfam. IV, **2:** 98. 1895, nom. superfl.
Chelonanthus alatus (Aublet) Pulle, Enum. Vasc. Pl. Surinam 376. 1906.

Herb to 2.5 m tall; stems terete or slightly ridged on lower internodes, glabrous. Leaves ovate-elliptic, 9-14 × 6-7 cm, base obtuse but narrowed to winged petioles, these to 1.5 cm long, upper leaves nearly sessile, these 6-7 × 4-6 cm, chartaceous. Inflorescences simple or bifurcate dichasia, the branches often unilateral with many flowers. Flowers with pedicels 5-7 mm long; calyx campanulate, tube 1-3 mm long, lobes elliptic, 4-5 × 4-6 mm, apex obtuse, margin scarious; corolla tubular at base but salverform and flaring above, 1.5-4.5 cm long, greenish-yellow, lobes triangular, 5-10 mm long and wide; stamens with filaments 1-2 cm long, corona absent; style 1-3 cm long. Capsules oblong, 10-20 × 7 mm, dehiscing laterally into 2 valves.

GENERAL DISTRIBUTION: Throughout the Neotropics, excluding the Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Grenada!.

NOTE: *Lisyanthus* Aublet and *Lisianthus* L. are considered to be orthographic variants of *Lisianthius* P. Browne. We have cited the pertinent names as they appear in the respective publications.

Irlbachia frigida (Sw.) P. Maas, Proc. Kon. Ned. Akad. Wetensch., Ser. C. **88:** 410. 1985. FIGURE 42.

Basionym: *Lisianthus frigidus* Sw., Prodr. 40. 1788.
Type: Guadeloupe, collector not stated.
Syn: *Calolisianthus frigidus* (Sw.) Gilg *in* Engl. & Prantl, Nat. Pflanzenfam. IV, **2:** 101. 1895.
Chelonanthus frigidus (Sw.) Urban, Symb. Antill. **3:** 334. 1902.
Calolisianthus frigidus (Sw.) Gilg var. *jolivetii* Stehlé, Monogr. Antill. Franç. 30, 31. 1958, nom. illegit. (No valid publication has been found for this name.)
Wurdackanthus frigidus (Sw.) Maguire and Boom, Mem. New York Bot. Gard. **51:** 9. 1989.

Herb to 2 m tall; stems 4-angled or terete or slightly winged at basal internodes, glabrous. Leaves elliptic, 8-14 × 4-8 cm, base rounded and decurrent on short petioles, these to 1 cm long, apex acute or acuminate, subcoriaceous, glabrous. Inflorescences few-flowered cymes or dichasia. Flowers with pedicels 1-7.5 cm long; calyx 7-14 mm long, tube campanulate, short, 3-7 mm long, lobes oblong, 4-6 × 3 mm, apex rounded, with margins scarious; corolla 30-60 mm long, tube 20-45 mm long, flaring above, funnelform or campanulate, 4.5-6 cm long, corolla lobes almost cordate, 6-12 × 10-20 mm, apex obtuse, yellow; stamens attached at base of corolla tube, filaments 2-4 cm long, with coronalike structure at base, strongly curved after shedding pollen, anthers strongly curved; style 2.5-4 cm long. Capsules elongate, ovoid, 1.5-2.2 × 1 cm, apex acute, dehiscent into two valves, the edges rolled; seeds numerous.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Guadeloupe!, Dominica!, St. Vincent!.

Common names: Muguet-savane, lis-montagne, lis jaune des hauts, soufrière rose.

Notes: This plant appears to be characteristic of high cinder volcanic areas, that are absent on St. Lucia but available on Martinique, yet the species has not been collected on either island. The plant flowers when only a decimeter tall and may have leaves 2.5-4 × 1-2 cm.

VOYRIA Aublet

Voyria Aublet, Hist. Pl. Guiane **1:** 208. 1775.

Syn.: *Leiphaimos* Schldl. & Cham., Linnaea **6:** 387. 1831. (Type: *Leiphaimos parasitica* Schldl. & Cham. = *Voyria parasitica* (Schldl. & Cham.) Ruyters & P. Maas.)

Erect saprophtyic herbs, stems simple or branched, solitary or few together. Leaves opposite, scalelike. Inflorescences terminal, few- to several-flowered or with a solitary flower. Flowers yellow, or white with blue lobes; calyx tubular to campanulate, 5-lobed, persistent; corolla regular, salverform, tube elongate, lobes 5, contorted, spreading; stamens 5, included, inserted at several levels of corolla tube, pollen in monads; ovary 1-locular, style filiform, stigma infundibular. Capsules fusiform to globose, septicidally dehiscent, opening in middle only; seeds numerous, filiform or fusiform.

Lectotype: *Voyria caerulea* Aublet.

A genus of 18 species in the Neotropics and one in west tropical Africa. For further information see P. J. M. Maas & P. Ruyters, Fl. Neotropica Monogr. **41.** 1-93. 1986.

Key to the Species

Corolla 25-50 mm long, completely yellow; plants without tuberous roots; ovary without glands . . . . *V. aphylla*

Corolla 9-22 mm long, lobes blue; plants with shallow, tuberous, clumped roots; ovary with two, long-stipitate, clavate glands . . . . *V. tenella*

Voyria aphylla (Jacq.) Pers., Syn. Pl. **1**: 284. 1805 (as "Vohiria"). FIGURE 43.

Basionym: *Gentiana aphylla* Jacq., Enum. Syst. Pl. 17. 1760; Select. Stirp. Amer. Hist. 87, *t. 60, fig. 3.* 1763.

Type: Martinique, Jacq., loc. cit. *t. 60, fig. 3.*

Syn.: *Voyria uniflora* Lam., Tabl. Encycl. **1**: 491. 1793, nom. illegit. citing *Gentiana aphylla* Jacq.

Leiphaimos aphylla (Jacq.) Gilg *in* Engl. & Prantl, Nat. Pflanzenfam. IV, **2**: 104, *fig. 46 A-D & J-K.* 1895.

Herb 15-30 cm tall, without tuberous root; stems simple, pale orange to yellow or whitish. Leaves narrowly triangular to narrowly ovate, 4-8 × 1-2 mm, connate below, apex acute. Flowers solitary; calyx campanulate to cylindrical, 4-8 mm long, tube 3-6 mm long, lobes triangular, 1-2 mm long; corolla salverform, 25-50 mm long, tube cylindrical, 20-35 mm long, lobes narrowly ovate, 4-15 × 1-5 mm; stamens inserted 3-5 mm inside throat; ovary fusiform, 5-8 mm long, subsessile to short- stipitate, style 10-30 mm long, stigma capitate-peltate, 5-lobed. Capsules fusiform, 8-10 × 1.5-2.5 mm; seeds filiform to fusiform.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, tropical South America.

DISTRIBUTION IN LESSER ANTILLES: Saba!, St. Eustatius!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Muguet jaune, muguet grand bois.

Voyria tenella Hook., Bot. Misc. **1**: 47, *t. 25, fig. B.* 1829 (as "Vohiria").

Type: St. Vincent, *Guilding s.n.* (holotype, K).

Syn.: *Leiphaimos tenella* (Hook.) Miq., Stirp. Surinam Select. 149. 1851.

Herb to 20 cm tall but collected in flower when 2 cm tall; stems simple, white to cream; roots tuberous, forming dense, shallow clumps. Leaves triangular, 2-5 × 1-1.5 mm, connate below, apex acute, white. Flowers solitary; calyx tubular-campanulate, 2.5-4 mm long, lobes narrowly ovate, 1-2 mm long; corolla salverform, 9-22 mm long, tube white to orange, lobes narrowly ovate, 2-7 mm long, obtuse, blue; ovary fusiform, 3-5 × 1-2 mm, with 2, long-stipitate clavate glands at base, style 2-4 mm long, stigma capitate. Capsules ellipsoid to globose, 4-7 × 2-4 mm, margins rolled inwards; seeds filiform.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, tropical South America.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, St. Vincent!.

COMMON NAME: Muguet bleu.

Eustoma exaltatum (L.) Salisb. Fournet (1978) noted several older literature references to this plant as occurring in Guadeloupe. No herbarium specimens have been found to document the records.

"Lisianthus uliginosus" was a name used as a marginal note in Anderson's Hortus (circa 1800) with no descriptive details. Grisebach published *Lisianthus uliginosus* (Gen. Sp. Gent. 181. 1838) on the basis of Surinam and Brazilian material and *L. gracilis* on the basis of a Guilding collection from St. Vincent. In 1862 (Fl. Brit. W. Indian Is. p. 424) Grisebach combined the two and recorded the distribution as Guiana and Brazil. It is possible the plant with blue flowers was an Anderson or Lochhead introduction (from a Guiana trip) to the St. Vincent Botanic Garden, where a specimen was made by Guilding. Weaver (J. Arnold Arbor. **53:** 309. 1972) referred the species to *Chelonanthus uliginosus* (Griseb.) Gilg, and Maas considers it to be *Irlbachia purpurascens* (Aublet) P. Maas.

MENYANTHACEAE

MENYANTHACEAE Dumort., Anal. Fam. Pl. 25. 1829.

Perennial aquatic herbs. Leaves alternate, simple or trifoliate; exstipulate. Flower solitary or in subumbellate cymes, regular, perfect (in our area); calyx 5-parted, deeply cleft, persistent; corolla gamopetalous, rotate or campanulate, lobes induplicate-valvate; stamens 5, alternate with corolla lobes, attached to corolla tube, filaments free; ovary superior to partly inferior, 1-locular, ovules numerous on 2 large parietal placentae, style simple, stigmas 2- or 3-lobed. Fruits capsular, irregularly dehiscent or indehiscent; seeds usually numerous.

TYPE: *Menyanthes* L.

A family of five genera and 40 species, nearly cosmopolitan in distribution in temperate and tropical regions as mostly marsh, bog, or aquatic plants.

NYMPHOIDES Séguier

Nymphoides Séguier, Pl. Veron. **3:** 121. 1754.

Aquatic herbs. Leaves petiolate, blades ovate or orbiculate. Flowers axillary, umbellate at apex of petiolelike stems, these to 30 cm long and subtended by short-petiolate leaf; calyx 5-parted; corolla rotate, deeply 5-cleft, sometimes fimbriate on margins and pubescent on surface, sometimes with longitudinal crest on upper surface; stamens inserted at base of corolla; ovary distylous in many species, style short or none, stigma bilobed. Capsules indehiscent or splitting irregularly; seeds numerous, small, sometimes alveolate.

TYPE: *Nymphoides flava* Hill.

NOTE: The genus was attributed to Hill (Brit. Herb. 77. 1756) until the earlier name by Séguier was located by Dandy. Séguier did not cite a binomial but did cite three polynomials, two of which were cited by Linnaeus in the synonymy of his *Menyanthes nymphoides.* Hill (loc. cit.) used the binomial *Nymphoides flava* as a new name citing a polynomial by Bauhin that had been cited by Linnaeus, and noted that it had been used by others. Hill's new binomial was possibly illegitimate at the time since the Linnean epithet *nymphoides* could have been used but in so doing he would have created a tautonym *Nymphoides nymphoides.* Britton (*in* Britton & A. Brown, Ill. Fl. N. U.S. ed. 2, **3:** 19. 1913) stated the type species to be *Menyanthes nymphaeoides* (L.) Britton by altering the original spelling used by Linnaeus of *nymphoides.* In this he is followed by Airy Shaw (*in* Willis, Flowering plants and ferns, ed. 8. 1973). Van Royen (Nova Guinea **17:** 410. 1964) stated that the type species was *N. indica* (L.) Kuntze (Revis. Gen. Pl. **2:** 429. 1891) based on *Menyanthes indica* L. (Sp. Pl. **1:** 145. 1753). ING (1979) lists the type species as *Menyanthes nymphoides* L. without stating an equivalent in the genus *Nymphoides.* Wood (J. Arnold Arb. **64:** 440. 1983) suggested that the type species was *Nymphoides aquis innatans* Tournefort (= *N. peltata* (S. Gmelin) Kuntze) the first polynomial given by Séguier. Since Hill had but one species in the genus *Nymphoides* it appears the correct generic typification is *Nymphoides flava* Hill.

A genus of 20 species of temperate and tropical areas. For additional information see R. Ornduff, Brittonia **21:** 346-352. 1970, and Taxon **19:** 715-719. 1970 as well as A. Raynal, Adansonia ser. 2, **14:** 227-270, 405-458. 1974.

Nymphoides indica (L.) Kuntze, Revis. Gen. Pl. **2:** 429. 1891.

FIGURE 44.

Basionym: *Menyanthes indica* L., Sp. Pl. **1:** 145. 1753.
Lectotype: LINN 203.2.
Syn.: *Villarsia humboldtiana* Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **3:** 145 (ed. folio), 187 (ed. quarto). 1819. (Type: Colombia, *?Humboldt & Bonpland s.n.* (holotype, P; IDC 6209. **73:** I. 2, photo!).)
Limnanthemum humboldtianum (Kunth) Griseb., Gen. Sp. Gent. 347. 1838.
Nymphoides humboldtiana (Kunth) Kuntze, Revis. Gen. Pl. **2:** 429. 1891.

Perennial aquatic herb with trailing stem and floating leaves. Leaves with petioles variable in length; blades suborbiculate to broadly ovate, 10-17 cm long and broad, sinuses broadly obtuse, triangular, or narrowly acute, margin entire, often purplish below, glabrous. Flowers few to many, borne at apex of petiolelike stems to 30 cm long; pedicels 2-5 cm long, deflexed and longer in fruit; calyx lobes to 6 mm long, acute; corolla 2.5 cm across, lobes white, yellow at base; filaments shorter or longer than anthers (flowers distylous); ovary globose, styles 6-10 mm in long style flowers, or very short or none in short style flowers. Capsules ovoid, 6 mm in diameter, enclosed by calyx; seeds lenticular, 1.5 mm in diameter.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, tropical South America, Africa, Australia, and Asia.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!.

COMMON NAMES: Follet-femelle, petit follet.

NOTE: Anderson recorded in his unpublished Hortus manuscript that he obtained the yellow-flowered form from Mr. Loddiges and had it under cultivation in the St. Vincent Botanic Garden. No specimens have been located.

APOCYNACEAE

APOCYNACEAE A. L. Juss., Gen. Pl. 143. 1789.

Shrubs, trees, woody or herbaceous climbers, rarely herbs, usually with white latex. Leaves opposite or whorled, rarely alternate or spiral, simple, entire; stipules reduced or none, often represented by ridge connecting leaf bases. Inflorescences terminal or extra-axillary, usually cymose. Flowers regular, perfect; calyx with short tube, lobes 5, imbricate, often with glands inside at base; corolla tubular, usually salverform or infundibuliform, rarely rotate, urceolate, or campanulate, often with scales at apex of throat, lobes 5, overlapping either to right or left; stamens 5, inserted on corolla tube, filaments free, anthers free or united around stigma, often sagittate at base, the connective often extended at apex; ovary superior (or half-inferior in *Plumeria*), carpels 2, syncarpous or free but joined by a common style, style head enlarged, ovules few to many. Fruits apocarpous or syncarpous, follicle or berry; seeds numerous, often comose or winged.

TYPE: *Apocynum* L.

A mostly tropical family of 180 genera and 1500 species. For additional information see R. E. Woodson, Jr., N. Amer. Fl. **29:** 103-191. 1938.

KEY TO THE GENERA

1. Erect herbs, often woody at base; corolla salverform, white or pink or ocellate in combination; seeds naked .... *Catharanthus*
1. Trees, shrubs, or vines.
  2. Trees.
    3. Leaves alternate or spiral.
      4. Fruit drupaceous, compressed, truncate; seeds few, naked, not winged; flowers yellow .... *Thevetia*
      4. Fruit a follicle; seeds numerous, basally winged; flowers usually white or red .... *Plumeria*
    3. Leaves opposite.
      5. Anthers separate; inflorescences loosely cymose; leaves without domatia; seeds with fleshy arils .... *Tabernaemontana*
      5. Anthers connivent, agglutinated to style head; inflorescences of congested cymes; leaves with axillary domatia; seeds spindle-shaped with basal coma .... *Funtumia*

2. Shrubs or vines.
   6. Leaves whorled.
      7. Flowers large and showy; fruits dry.
         8. Corolla with conspicuous petaloid appendages in throat; flowers white or pink; fruit a follicle . . . . *Nerium*
         8. Corolla with scales closing the throat; flowers yellow or mauve; fruit a capsule with soft spines; seeds flat, naked . . . . *Allamanda*
      7. Flowers small, white; fruits fleshy, red or black . . . . *Rauvolfia*
   6. Leaves opposite.
      9. Corolla salverform, yellow or greenish-yellow.
         10. Anthers apically long-appendaged; glands alternate with calyx lobes . . . . *Urechites*
         10. Anthers without apical appendages; glands as many as calyx lobes and opposite them.
             11. Orifice of corolla with conspicuous callose annulus; glands globular; corolla tube ridged, swollen in lower half, straight above, lobes entire, reflexed . . . . *Prestonia*
             11. Orifice of corolla without callose annulus; glands lacerate; corolla tube swollen in middle, twisted above, lobes spreading, erose . . . . *Echites*
      9. Corolla infundibuliform, pink or white . . . . *Rhabdadenia*

Cultivated Taxa

The following species have been cited from the Lesser Antilles primarily from botanical garden records and are rarely documented.

Alstonia scholaris R. Br. Recorded by Duss from the St. Pierre Botanic Garden.

Aspidosperma sessiliflorum Muell. Arg. (= *A. cuspa* (Kunth) Blake) was reported from St. Vincent by Grisebach on the basis of a Guilding collection presumably from a cultivated plant.

Beaumontia grandiflora (Roxb.) Wallich. Currently cultivated on Martinique and Barbados.

Carissa bispinosa (L.) Desf. (*C. arduina* Lam.). Recorded by Fournet.

Carissa carandas L. Recorded by Duss from the St. Pierre Botanic Garden.

Carissa macrocarpa (Ecklon) A. DC. (*C. grandiflora* (E. Meyer) A. DC.). Currently in cultivation on Barbados.

Cerbera manghas L. Once cultivated in the Botanic Garden on Dominica.

Cerbera tanghin (Poiret) Hook. (*Taghinia venenifera* Poiret). Recorded by Duss as cultivated at the St. Pierre Botanic Garden.

Chonemorpha penangensis Ridley. A poor specimen from Martinique (Stehlé 4591, P) is questionably this species.

Conopharyngia elegans (Stapf) Stapf. Once cultivated in the Botanic Garden on Dominica.

Echites circinalis Sw., was reported from St. Vincent by Grisebach on the basis of a Guilding collection and may have been cultivated. Woodson (Ann. Missouri Bot. Gard. **23:** 278. 1936) referred this to the synonymy of *Prestonia agglutinata* (Jacq.) Woodson.

Kopsia fruticosa A. DC. Recorded by Duss as cultivated in the St. Pierre Botanic Garden.

Malouetia A. DC. has been reported from the West Indies on the basis of two species, *Malouetia cubana* A. DC. (*in* DC., Prodr. **8:** 379. 1844), based on a de la Ossa collection from Cuba, and *Malouetia retroflexa* Muell. Arg. (Linnaea **30:** 408. 1860), based on a Guilding collection from St. Vincent. Woodson (Ann. Missouri Bot. Gard. **22:** 244. 1935) accepted an earlier treatment by Miers and placed *M. retroflexa* in the synonymy of *M. cubana.* Neither species is known from other than the type collection and neither has been collected again. Dr. Mary Fallen, who is preparing a monograph of *Malouetia*, has concluded (pers. comm.) that both species are referable to *Malouetia flavescens* (Willd. ex Roemer & Schultes) Muell. Arg. The specimens appear to be further examples of Anderson introductions to the St. Vincent Botanic Garden from South America. In his unpublished Hortus, Alexander Anderson described a plant he collected "near the falls of the Demerary river," which he called "Vinca guianensis, Vinca arborescens and Cameraria tamaquarina Aubl. pl. Guian. 260, *t. 102.*" Anderson referred to a painting done by his associate that is preserved in the library of the Linnean Society. The painting and the description clearly apply to the plant described as *Malouetia retroflexa.* Guilding collected specimens from plants in the St. Vincent Botanic Garden. Anderson is also known to have sent plants and seeds to Cuba, where de la Ossa was in charge of a botanical garden.

Odontadenia grandiflora (Miers) Schum. (*O. speciosa* sensu Duss, non Benth.). Reported by Fournet.

Strophanthus gratus (Wallich & Hook.) Baillon. Reported by Duss as *Roupellia grata* from the St. Pierre Botanic Garden.

Vallaris heynii Sprengel. Reported by Fournet.

ALLAMANDA L.

Allamanda L., Mant. Pl. **2:** 214. 1771.

Shrubs with scandent branches. Leaves whorled. Inflorescences axillary cymes. Flowers large, yellow or mauve; calyx 5-parted, lobes equal, foliaceous, often with glands; corolla tubular-campanulate, showy, lobes overlapping to the left, with ciliate scales closing the throat; filaments short, anthers separate, sagittate at base; ovary syncarpous, l-celled, ovules numerous, style filiform, style head with reflexed membrane at base. Fruits spiny globose capsules; seeds numerous, compressed, margined or winged.

TYPE: *Allamanda cathartica* L.

A genus of 12 species of tropical South America. The spelling *Allamanda* is regarded as a sphalma by Airy-Shaw, who noted the correction by Linnaeus to *Allemanda.* For further information see M. Sahane & G. J. Shepherd, Revta. brasil. Bot. **9:** 125-149. 1986.

KEY TO THE SPECIES

Flowers dull rose-purple . . . . *A. blanchetii*
Flowers yellow . . . . *A. cathartica*

Allamanda blanchetii A. DC. *in* DC., Prodr. **8:** 319. 1844 (March).

Type: Brazil, *Blanchet 2695* (holotype, G-DC; IDC 2562. 1494: II. 1, photo!).
Syn.: *Allamanda violacea* Gardner & Fielding, Sert. Pl. *t. 41.* 1844 (Oct.). (Syntypes: Brazil, *Gardner 1980, 2230* (OXF).)

Differs from *A. cathartica* in being less scandent with hirsute stems and purple-mauve flowers.

DISTRIBUTION IN LESSER ANTILLES: Observed under cultivation on several islands but not documented by herbarium specimens.

COMMON NAME: Purple allamanda.

Allamanda cathartica L., Mant. Pl. **2:** 214. 1771. FIGURE 45.

Type: Not determined.
Syn.: *Orelia grandiflora* Aublet, Hist. Pl. Guiane **1:** 271, *t. 106.* 1775. (Type: LINN-Sm 441.1!, P-R **6:** 223!).
Allamanda grandiflora (Aublet) Poiret *in* Lam., Encycl. **4:** 601. 1798.
Allamanda hendersonii W. Bull ex Dombrain, Fl. Mag. **5:** *t. 263.* 1866. (Type: loc. cit. *t. 263.*)
Allamanda cathartica L. var. *grandiflora* (Aublet) Bailey & Raffill *in* Bailey, Stand. Cycl. Hort. **1:** 247. 1914.
Allamanda cathartica L. var. *hendersonii* (W. Bull ex Dombrain) Bailey & Raffill *in* Bailey, Stand. Cycl. Hort. **1:** 247. 1914, or Nicholson, Ill. Dict. Gard. **4:** 488. 1888 (as "hendersoni").

Shrub with scandent branches or all climbing. Leaves in whorls of 4 or 3 or some opposite; petioles 2-3 mm long; blades obovate to oblong-lanceolate, 5-12 × 2.5-6 cm, base narrowed, apex acuminate, margin entire, leathery. Flowers with calyx eglandular; corolla 7-9 cm long, 5-7.5 cm across, bright yellow. Capsules globose, 4 cm in diameter, densely covered with soft spines 1 cm long; seeds compressed, tan, slightly margined.

GENERAL DISTRIBUTION: Possible native of Brazil but cultivated and naturalized throughout the tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Allamanda, liane à lait.

NOTES: Opinions differ on the status of the large-flowered plants known as *A. hendersonii*, recognized as a variety by Nicholson and Bailey and as a species by Sachet (Smithsonian Contr. Bot. **23**: 20. 1975). It has been placed in synonymy by Markgraf (Fl. Madagascar, 304. 1976.) This may be recognized as a cultivar since the plants in the Lesser Antilles tend to have larger and more glossy leaves and no fruits have been seen.

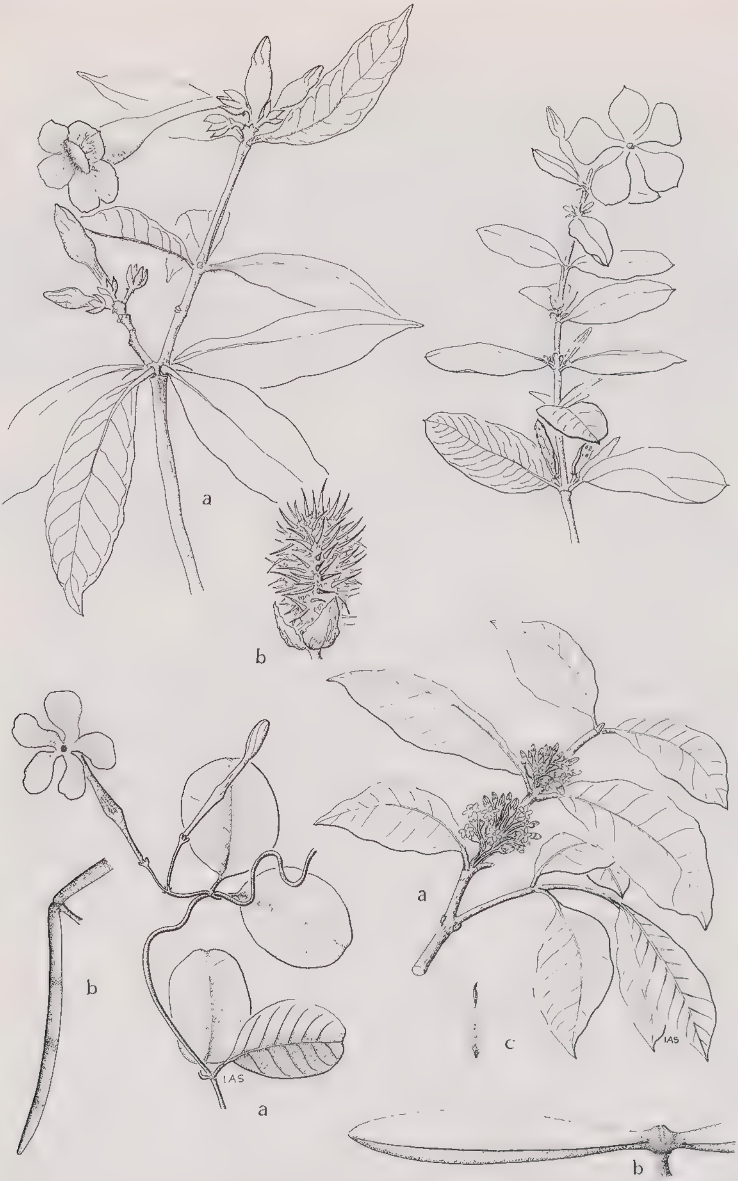


FIGURE 45 (upper left). *Allamanda cathartica*: a, flowering branch, × 0.35; b, fruit, × 0.35. FIGURE 46 (upper right). *Catharanthus roseus*: × 0.35. FIGURE 47 (lower left). *Echites umbellata*: a, flowering shoot, × 0.4; b, fruit, × 0.4. FIGURE 48 (lower right). *Funtumia elastica*: a, flowering branch, × 0.17; b, fruit, × 0.35; c, seed, × 0.35.

CATHARANTHUS Don

Catharanthus Don, Gen. Hist. **4:** 71, 95. 1837.

Syn.: *Lochnera* Reichb. ex Endl., Gen. Pl. 583. 1838, non Scop. (1777). (Type: *Vinca rosea* L. = *Lochnera rosea* (L.) Reichb. ex Endl.)

Annual or perennial herbs, often woody at base. Leaves opposite, not glandular. Inflorescences axillary cymes of 1 to 4 flowers. Flowers with calyx 5-parted, lobes subequal, eglandular; corolla salverform, throat pubescent and thickened, limb equally 5-parted, lobes overlapping to the left; stamens inserted on upper part of tube, anthers free, without enlarged connective; carpels distinct, with 2 oblong-ovoid nectaries, ovules numerous, style head short-cylindrical, pubescent, with reflexed membrane at base. Follicles terete; seeds small, compressed, naked.

TYPE: *Catharanthus roseus* (L.) Don.

A genus of seven species, most occurring in Madagascar. For further information concerning *C. roseus* see A. C. Plaizier, Meded. Landbouwhogeschool **81-9:** 1-12. 1981.

Catharanthus roseus (L.) Don, Gen. Hist. **4:** 95. 1837. FIGURE 46.

Basionym: *Vinca rosea* L., Syst. Nat. ed. 10, **2:** 944. 1759.
Lectotype: *Miller 1847* (BM).
Syn.: *Lochnera rosea* (L.) Reichb. ex Endl., Gen. Pl. 583. 1838.

Herb to 80 cm tall but often shorter and spreading. Leaves with petioles 4-10 mm long; blades oblong to oblong-lanceolate, 4-8 × 1.5-3 cm, base narrowed, apex rounded with small mucro, minutely puberulent. Flowers in sessile pairs in alternate leaf axils; calyx lobes lanceolate, 4-7 mm long; corolla salverform, tube 2-3 cm long, orifice constricted, lobes broadly obovate, 1.5-2.5 cm long, spreading, pink or white or with contrasting eye. Follicles terete, 1.5-3.5 cm long, erect; seeds numerous.

GENERAL DISTRIBUTION: Native of Madagascar but widely cultivated, escaped, and spreading in tropical and subtropical areas.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, Barbuda!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

COMMON NAMES: Periwinkle, caca-poule, pervenche de Madagascar, herbe aux sorciers.

NOTES: The color forms have been named: var. *roseus* has an all-pink corolla; var. *albus* Don (Gen. Hist. **4:** 95. 1837) has white flowers; var. *donianus* Rizzini (Arch. Jard. Bot. Rio de Janeiro **23:** 7. 1978) has a pale rose-violet limb with a dark eye; var. *ocellatus* Don (loc. cit.) has white corolla with purple eye; and var. *villosus* Don (loc. cit.) has pubescent foliage.

ECHITES P. Browne

Echites P. Browne, Civ. Nat. Hist. Jamaica **2:** 182. 1756.

Twining and somewhat woody climber. Leaves opposite with glands in axils of petioles; petioles slightly perfoliate at base. Inflorescences lateral modified dichasia. Flowers large; calyx 5-lobed, 1 gland opposite each lobe, frequently lacerate; corolla salverform, tube swollen in middle, twisted above, orifice without callose annulus, lobes overlapping to the right, spreading; stamens included, anthers connivent and agglutinated to stigma, connective enlarged, sagittate, and slightly auriculate at base; gynoecium 2-carpellate, apocarpous, nectaries 5, separate or concrescent. Follicles 2, divergent or reflexed; seeds numerous, dry, rostrate, apically comose.

TYPE: *Echites umbellata* Jacq.

A genus of 6 or more species of Florida, Mexico, Central America, Greater Antilles, and Colombia.

Echites umbellata Jacq., Enum. Syst. Pl. 13. 1760; Select. Stirp. Amer. Hist. 30, *pl. 22.* 1763. FIGURE 47.

TYPE: Plum., Pl. Amer. *pl. 216. fig. 2.* 1759.

Climbing plant. Leaves with petioles 5-10 mm long; blades broadly ovate to oblong-elliptic, 4-12 × 2-7 cm, base cuneate, rounded to subcordate, apex obtuse, retuse, or short-cuspidate, glabrous or minutely puberulous on veins. Inflorescences with peduncles 1.5-2 cm long. Flowers with pedicels 1 cm long; calyx lobes ovate, to 5 mm long; corolla tube to 6 cm long, lobes obovate, 1.1-3 cm long, erose, greenish-yellow. Follicles thick, fusiform, 9-15 cm long, reflexed at maturity; seeds 5 mm long, coma to 1.5 cm long.

GENERAL DISTRIBUTION: Florida, Bahamas, Cuba, Hispaniola, Jamaica, Mexico, Belize, Panama.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!.

FUNTUMIA Stapf

Funtumia Stapf *in* Hook., Icon. Pl. **27:** *t. 2694, 2695.* 1901.

Trees. Leaves opposite, blades coriaceous, with small domatia in axils of primary veins. Inflorescences axillary congested cymes. Flowers with calyx 5-parted, imbricate, with flattened glands inside at base; corolla salverform, tube widened at middle, upper portion thick and fleshy, orifice narrow, lobes linear to oblong, overlapping to the right; stamens inserted at middle of tube, anthers connivent into a cone and agglutinated to style head, lanceolate, sagittate at base, acuminate at apex into long appendage, connective with ligulate projection; disk tubular, 5-lobed, fleshy; carpels free, with numerous ovules, abruptly contracted into style, style head ovoid, 5-grooved. Follicles oblong to spindle-shaped, divaricate, coriaceous; seeds spindle-shaped with plumose awn at base.

TYPE: *Kickxia elastica* P. Preuss = *Funtumia elastica* (P. Preuss) Stapf.

A genus of 2 species of tropical Africa. *Funtumia elastica* is the source of Lagos rubber.

Funtumia elastica (P. Preuss) Stapf *in* Hook., Icon. Pl. **27:** *t. 2694, 2695.* 1901. FIGURE 48.

Basionym: *Kickxia elastica* P. Preuss, Notizbl. Bot. Gard. Berlin-Dahlem **2:** 353, *t. 1.* 1899.

Type: Cameroon, *Preuss 1381* (holotype, B, presumably destroyed).

Tree to 30 m tall. Leaves with petioles 5 mm long; blades oblong to lanceolate-oblong, 13-23 × 4-6 cm, base cuneate, apex acuminate, margin undulate, entire, glabrous. Cymes subsessile, many-flowered. Flowers with calyx lobes ovate to orbiculate, internal glands 2; corolla white or yellowish, tube 7 mm long, constricted above base, lobes oblong, 6-7 mm long, obtuse; disk 5-parted, lobes slightly longer than ovary. Follicles oblong-clavate, to 19 cm long, rounded at apex, obscurely keeled; seeds spindle-shaped, 5-13 mm long, awns 3-5 cm long, naked below, long hairy above.

GENERAL DISTRIBUTION: Native to Africa.

DISTRIBUTION IN LESSER ANTILLES: Dominica!.

NOTES: Introduced as a potential source of rubber in 1896 and 1897 and once cultivated also on Antigua, St. Kitts, Montserrat, St. Lucia, St. Vincent, and Grenada. For further information see R. Howard & D. Powell, Econ. Bot. **17:** 337-349. 1963.

NERIUM L.

Nerium L., Sp. Pl. **1:** 209. 1753.

Many-stemmed shrub often trained to small tree. Leaves usually in whorls of 3 but sometimes 4 or opposite, coriaceous, not glandular. Inflorescences terminal, thyrsiform. Flowers numerous, conspicuous, white or pink to red; calyx 5-parted, lobes equal, imbricate, with numerous glands at base adaxially; corolla infundibuliform, throat with conspicuously cleft petaloid scales, limb 5-parted, overlapping to the right; anthers somewhat exserted, connivent and agglutinated to stigma, connective enlarged, long appendiculate at apex, 2-lobed at base; ovary apocarpous, without nectaries or disk, style head fusiform. Follicles 2, separate, stout, fusiform; seeds compressed, densely puberulent, comose at apex.

LECTOTYPE: *Nerium oleander* L., vide E. G. Steudel, Nomencl. Bot. ed. 1, **1:** 533. 1821.

A genus of 3 species from the Mediterranean to Japan. For further information see F. J. J. Pagen, Agric. Univ. Wagenin. papers 87-2. 1987.

Nerium oleander L., Sp. Pl. **1:** 209. 1753. FIGURE 49.

Type: LINN 76.1.

Shrub or small tree to 5 m tall. Leaves with petioles 3-7 mm long; blades oblong-lanceolate, 2-30 × 0.5-3.5 cm, base narrowly cuneate, apex acuminate, glabrous and shiny above, puberulent beneath. Inflorescences subcorymbose. Flowers with calyx lobes lanceolate to ovate-lanceolate, 4-6 mm long; corolla tube 12-22 mm long, 1.5 mm in diameter at throat, lobes obliquely obovate, 2-3.5 cm long, spreading. Follicles 8-17 cm long; seeds numerous, brown, pubescent.

GENERAL DISTRIBUTION: Native to the Mediterranean region but widely cultivated and persisting in the tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Montserrat!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Barbados!.

COMMON NAMES: Oleander, lówyé wouj.

NOTES: Probably cultivated on all the islands but not represented by herbarium vouchers. Flowers are most frequently white, but pink and red are common, as are double forms in all colors.

PLUMERIA L.

Plumeria L., Sp. Pl. **1:** 209. 1753.

Trees. Leaves alternate, petiolate. Inflorescences terminal or extra-axillary, thyrsiform, usually congested, with few to many waxy flowers; flowers usually white or red, throat sometimes contrasting in color, with calyx 5-parted, lobes equal or subequal, glandular at apex but eglandular within; corolla salverform, not appendaged within, lobes 5, overlapping to the left; anthers included, separate, without enlarged connective; carpels 2, half-inferior, separate, without disk or nectary, ovules many. Follicles 2, separate; seeds flattened, dry, basally winged.

LECTOTYPE: *Plumeria rubra* L., vide N. L. Britton & P. Wilson, Bot. Porto Rico **6:** 87. 1925.

A genus of 8 species mainly of tropical America. Introduced widely in tropical areas.

KEY TO THE SPECIES

Leaves lanceolate, to 7 cm wide; flowers white with yellow eye; inflorescences congested, subumbelliform . . . . *P. alba*

Leaves elliptic-obovate to oblong-oblanceolate, to 15 cm wide; flowers white, red, rose, yellow, or bicolored; inflorescences lax, paniculate or subcorymbose . . *P. rubra*

Plumeria alba L., Sp. Pl. **1:** 210. 1753. FIGURE 50.

Lectotype: Plum., Pl. Amer. *pl. 231.* 1760.

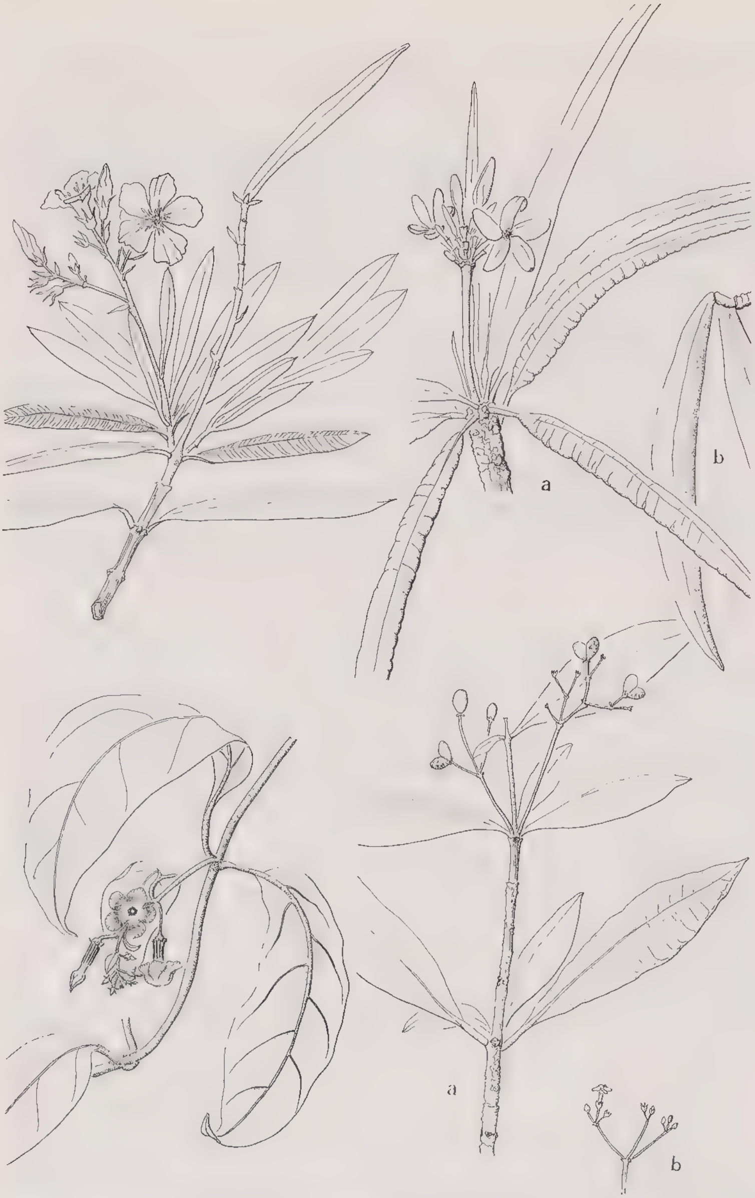


FIGURE 49 (upper left). *Nerium oleander*: × 0.35. FIGURE 50 (upper right). *Plumeria alba*: a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 51 (lower left). *Prestonia quinquangularis*: × 0.35. FIGURE 52 (lower right). *Rauvolfia biauriculata*: a, fruiting branch, × 0.35; b, inflorescence, × 0.35.

Small to medium-sized trees to 10 m tall. Leaves with petioles 1.5-6.5 cm long; blades lanceolate, rarely broadly oblong-elliptic, 11-30 × 1-7 cm, base obtuse to rounded, apex long-acuminate, margin commonly revolute, membranaceous to subcoriaceous, adaxial surface green, abaxial surface densely puberulent. Inflorescences subumbellate; flowers several to numerous; pedicels 7-10 mm long; calyx lobes ovate, 1-2.5 mm long, rounded to acuminate; corolla salverform, tube 1-2.2 cm long, 1-1.5 mm in diameter, lobes obovate, 2.5-4.5 cm long, white with yellow eye. Follicles stout, fusiform, 9-16 cm long, 1-1.5 cm in diameter; seeds numerous.

General distribution: Puerto Rico to northern South America.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Wild frangipani, pigeon wood, caterpillar tree, jasmine, frangipanier, frangipani blanc.

Note: Plants are commonly infested and defoliated by the large, black and yellow-striped caterpillar of the sphinx moth, *Pseudosphinx tetrio* (L.) of the Sphingidae.

Plumeria rubra L., Sp. Pl. **1:** 209. 1753.

Lectotype: Sloane, Voy. Jamaica, *t. 185, fig. 1.* 1725.
Syn.: *Plumeria acuminata* Aiton f., Hortus Kew. **2:** 70. 1811. (Type: Rumph., Herb. Amboin. **4:** *t. 38.* 1743.)

Small to medium-sized trees to 25 m tall. Leaves with petioles 1.5-11 cm long; blades elliptic-obovate to oblong-oblanceolate, 12-50 × 3.5-15 cm, base obtuse to cuneate, apex short-acuminate or acute to obtuse, margin entire, flat, membranaceous, glabrous above, glabrous to densely pubescent beneath. Inflorescences paniculate to subcorymbose, lax. Flowers numerous; calyx lobes ovate-deltate, 1-2 mm long, obtuse to truncate; corolla salverform, tube 1-2.5 cm long, 1.5-2.5 mm in diameter, usually red to pink but occasionally white or yellow or bicolored, lobes broadly obovate, 2.5-6 cm long, rounded to obtuse. Follicles fusiform, 9-30 cm long, 1.2-4 cm thick.

General distribution: Native to Jamaica but introduced worldwide in the tropics as an ornamental.

Distribution in Lesser Antilles: St. Martin!, St. Barts!, Saba!, St. Eustatius!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

Common names: Frangipani, frangipanier rouge, laurier rouge bâtard.

Note: *Plumiera pudica* Jacq., native to Venezuela, was once cultivated in a cemetery on Martinique.

PRESTONIA R. Br.

Prestonia R. Br., Asclepiadeae 58. 1810; Mem. Wern. Nat. Hist. Soc. **1:** 69. 1811, nom. cons.

Woody lianas. Leaves opposite, not glandular. Inflorescences axillary, rarely subterminal, racemose on dichotomous or trichotomous branches or corymbose to subumbellate; flowers few to numerous, medium-sized to large; calyx 5-parted, the lobes equal, with one globular gland inside at base; corolla salverform or infundibuliform, tube ridged, swollen in lower half, straight above, with 5 epistaminal appendages within, orifice with conspicuous callose annulus, lobes 5, overlapping to the right, entire, reflexed; anthers somewhat exserted, connivent and agglutinated to style head, without apical appendages, connective enlarged, narrowly 2-lobed; carpels separate, with 5 separate or concrescent nectaries at base, style head fusiform to subcapitate. Follicles 2, separate or more or less agglutinated, narrowly terete to subfusiform; seeds numerous, dry, comose.

TYPE: *Prestonia tomentosa* R. Br.

A genus of 65 species of tropical Central and South America and the West Indies. For further information see R. E. Woodson, Jr., Ann. Missouri Bot. Gard. **23:** 276-366. 1936.

Prestonia quinquangularis (Jacq.) Sprengel, Syst. Veg. **1:** 637. 1824.
FIGURE 51.

Basionym: *Echites quinquangularis* Jacq., Enum. Syst. Pl. 13. 1760; Select. Stirp. Amer. Hist. 32, *pl. 25. 1763.*
Type: Cartagena, Colombia, Jacq., loc. cit. *pl. 25.*
Syn.: *Echites nutans* A. Anderson, Trans. Soc. London Encour. Arts **25:** 203. 1807, nom. nud.; ex Sims, Bot. Mag. **51:** *t. 2473.* 1824. (Type: Living plant obtained from St. Vincent Botanic Garden, Bot. Mag. **51:** *t. 2473.*)
Haemadictyon venosum Lindley, Trans. Hort. Soc. London **6:** 70. 1825, nom. illegit.
Haemadictyon nutans (A. Anderson ex Sims) A. DC. *in* DC., Prodr. **8:** 426. 1844.

Climber with slender stems. Leaves with petioles 1-2 cm long; blades oblong to ovate-elliptic, 6-14 × 2-6 cm, base obtuse or rounded, apex acute to short-acuminate, membranaceous, veins colored red or purple, at least when young, glabrous above, minutely pubescent beneath. Inflorescence a simple raceme with 6 to 20 flowers, bracteate; flowers with pedicels 0.7-1.5 cm long; calyx lobes ovate-lanceolate, 1-1.5 mm long, sharply reflexed, internal glands deltoid-ligulate; corolla salverform, tube 1.2-1.5 cm long, lobes obliquely obovate, 7-10 mm long, greenish-yellow; anthers narrowly sagittate, dorsally pubescent; ovary with ovoid, separate or concrescent, basal nectaries. Follicles stout, 20-35 cm long, agglutinated and united at apex; seeds 1 cm long, coma tawny, 2 cm long.

GENERAL DISTRIBUTION: Trinidad, Guiana, Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica, St. Vincent.

NOTES: Sims' illustration was based on material from the St. Vincent Botanic Garden sent by Caley, Anderson's successor as director of the garden. Anderson recorded in his ''Hortus'' that he brought seeds from Trinidad during his trip of 1796. Other records of its occurrence in the Lesser Antilles are based on *Imray 70* (K), *Kunth s.n.* (B), and *Duss 2841* and *3713* (B, NY!), all of which could be from plants under cultivation. No recent collections are known. Our illustration is redrawn from Bot. Mag. **51:** *t. 2473.*

RAUVOLFIA L.

Rauvolfia L., Sp. Pl. **1:** 208. 1753.

Shrubs or small trees; nodes with small, interpetiolar, deciduous stipules and persistent glands confined to leaf axils or extending up petiole. Leaves whorled, 3 to 5 at each node, often anisophyllous. Inflorescences terminal or lateral and extrapetiolar, 2 to 4 times dichotomously branched, bracteate, few- to many-flowered; flowers pedicellate or sessile; calyx campanulate, 5-lobed, eglandular within; corolla salverform, infundibuliform, urceolate, or campanulate, lobes 5, equal, overlapping to the left, white, glabrous outside, variously pubescent inside; stamens epipetalous, anthers free, included; carpels 2, apocarpous or variously syncarpous, bilocular, ovules 1 or 2 per locule, basal disk annular, stigma cylindrical. Follicles free or variously united as drupes or only 1 carpel developing, red or black; seeds stout or flat.

TYPE: *Rauvolfia tetraphylla* L.

A pantropical genus of 100 species.

KEY TO THE SPECIES

1. Leaves with glands in axils and on petiole; corolla urceolate; fruits fully syncarpous, globose.
    2. Leaves conspicuously anisophyllous, smallest leaf at node half as long as largest; inflorescences mostly lateral; calyx lobes acute, obtuse, or rounded .... *R. tetraphylla*
    2. Leaves slightly anisophyllous, smallest leaf of each node usually more than half as long as largest; inflorescences terminal; calyx lobes acuminate or cuspidate .... *R. viridis*
1. Leaves with glands in axils only; corolla salverform, infundibuliform, or campanulate; fruits apocarpous or variously syncarpous, globose or bilobed.
    3. Leaves mostly in whorls of 4, elliptic, upper surface more or less shiny with conspicuous secondary veins; calyx lobes rounded.............. *R. nitida*
    3. Leaves mostly in whorls of 3, oblanceolate to obovate, upper surface opaque with obscure secondary veins; calyx lobes acute......... *R. biauriculata*

Rauvolfia biauriculata Muell. Arg., Linnaea **30:** 396. 1860. FIGURE 52.

Type: Syntypes cited, no lectotype chosen. See notes.

Shrubs or small trees to 9 m tall; glands in leaf axils only. Leaves mostly in whorls of 3; petioles 5-10 mm long; blades oblanceolate to obovate, 5-12 × 2-3.5 cm, base cuneate, apex short-acuminate to caudate, upper surface opaque with obscure secondary veins. Inflorescences terminal, few- to many-flowered, corymbose; peduncles repeatedly dichotomously branched; flowers with calyx deeply 5-lobed, lobes deltate, 1.5 mm long, apex acute, margin glandular-dentate; corolla salverform, tube 4-7 mm long, 1 mm in diameter, glabrous outside, villous on upper half within, lobes obliquely oblong-elliptic, 4-5 × 2-3 mm, obtuse; carpels fused nearly to top, disk annular. Fruits obcordate, lobes ellipsoidal, 12-15 × 5-8 mm; seeds 2.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!.

COMMON NAMES: Bois pisant, bois-lait-montagne.

NOTES: In the original description specimens are cited from Santo Domingo (*Ritter s.n.*, W) and Trinidad (*Sieber s.n.*, W). The first is certainly an error for Dominica and the latter is possibly Martinique, although no recent collections are known from that island. The species is well represented from Guadeloupe and Dominica.

Rauvolfia nitida Jacq., Enum. Syst. Pl. 14. 1760; Select. Stirp. Amer. Hist. 47. 1763.

Type: None cited.

Shrubs or trees to 15 m tall; glands in leaf axils only. Leaves mostly in whorls of 4; petioles 5-10 mm long; blades ovate-elliptic to oblong-elliptic, 3-15 × 2-5 cm, base attenuate, apex acute to short-acuminate, upper surface more or less shiny with conspicuous secondary veins. Inflorescences terminal and lateral, few- to many-flowered, corymbose; peduncles repeatedly dichotomously branched. Flowers with pedicels 2-5 mm long; calyx lobes ovate, 1.5 mm long, apex rounded; corolla salverform, tube 5-6 mm long, 1.5 mm in diameter, glabrous outside, villous on upper half within, lobes broadly ovate, 3-4 mm long; disk annular. Fruits subglobose, 10-12 × 15-18 mm; seeds 2.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Guadeloupe!, Martinique!.

Rauvolfia tetraphylla L., Sp. Pl. **1:** 208. 1753.

Type: LINN 293.4.

Syn.: *Rauvolfia hirsuta* Jacq., Enum. Syst. Pl. 14. 1760; Select. Stirp. Amer. Hist. 47. 1763. (Type: Sloane, Voy. Jamaica **2:** *t. 188, fig. 1.* 1725.)

Rauvolfia tomentosa Jacq., Enum. Syst. Pl. 14. 1760; Select. Stirp. Amer. Hist. 48. 1763. (Type: Colombia. No specimens known.)

Rauvolfia canescens L., Sp. Pl. ed. 2, **1:** 303. 1762. (Type: Not selected.)

Shrubs to 1.5 m tall, softly pubescent to glabrous; pectinate glands in axils and on petiole. Leaves in whorls of 4, rarely 3 or 5, anisophyllous; petioles

2-5 mm long; blades variable, ovate, ovate-elliptic to oblong- or obovate-elliptic, the largest 5-15 × 2-4 cm, the smallest 1-4 × 0.8-3 cm, base obtuse, apex acute to obtuse, glabrous or tomentulose on both surfaces. Inflorescences mostly lateral; peduncles 1-4 cm long; flowers with pedicels 2-5 mm long; calyx lobes ovate, 1 mm long, apex acute, obtuse or rounded; corolla urceolate, tube 2-3 mm long, white, glabrous to puberulent outside, villose within, lobes obovate to nearly orbiculate, 1 mm long; stamens included. Fruits spherical to subspherical, 5-8 mm in diameter, red to black on ripening; seeds 2.

General distribution: Greater Antilles, Mexico, Central America, northern South America.

Distribution in Lesser Antilles: St. Barts, St. Kitts, Barbados!.

Rauvolfia viridis Willd. ex Roemer & Schultes, Syst. Veg. **4:** 805. 1819.

Type: Cumana, *Humboldt & Bonpland s.n.* (B-W #5100; IDC 7440. 349: II. 5, 6, photo!).

Syn.: *Rauvolfia lamarckii* A. DC. *in* DC., Prodr. **8:** 337. 1844. (Type: Guadeloupe, *Bertero s.n.* (holotype, G-DC; IDC 2562. 1497: I. 7, photo!).)

Rauvolfia latifolia A. DC. *in* DC., Prodr. **8:** 339. 1844. (Type: Martinique, *Sieber 74* (not located on microfiche of G-DC herbarium.)

Rauvolfia lanceolata sensu Griseb., Fl. Brit. W. Indian Is. 408. 1861, non A. DC. (1844).

Shrubs to 2 m tall; glands in leaf axils and on petioles. Leaves in whorls of 4, rarely 3, slightly anisophyllous; petioles 2-8 mm long; blades ovate to broadly ovate-elliptic, 5-15 × 3-5 cm, the smallest 2-4 × 1.5-3 cm, base cuneate, apex acute to acuminate, glabrous above, minutely puberulent beneath. Inflorescences terminal; peduncles 1-4 cm long; flowers with pedicels 2-4 mm long, calyx lobes ovate, 1-1.5 mm long, apex acuminate or cuspidate; corolla narrowly urceolate, tube 2-2.5 mm long, white, glabrous or sparsely puberulent outside, sparsely villose inside, lobes ovate, 2-2.5 × 1 mm, obtuse; stamens included. Fruits subspherical, 5-7 mm in diameter; seeds 2.

General distribution: Puerto Rico, Trinidad, northern South America.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

Common names: Bellyache bush, balsam, sassafras, milk tree, ti bois-lait.

RHABDADENIA Muell. Arg.

Rhabdadenia Muell. Arg. *in* C. Martius, Fl. Bras. **6**(1): 173. 1860.

Woody liana. Leaves opposite, not glandular. Inflorescences extra-axillary or subterminal, reduced dichasial cymes, often 1-flowered; flowers with calyx 5-parted, lobes equal, eglandular within; corolla infundibuliform, without internal scales, pink or white, limb 5-parted, lobes overlapping to the right; anthers connivent and agglutinated to style head, connective enlarged, 2-lobed; carpels separate, surrounded by 5 separate or concrescent nectaries, ovules numerous, style head fusiform. Follicles 2, narrowly terete; seeds numerous, terete, short-rostrate, comose at apex.

TYPE: *Rhabdadenia pohlii* Muell. Arg.

A genus of 4 species in Florida, the Greater Antilles, Mexico, Central and South America.

Rhabdadenia biflora (Jacq.) Muell. Arg. *in* C. Martius, Fl. Bras. **6**(1): 175. 1860. FIGURE 53.

Basionym: *Echites biflora* Jacq., Enum. Syst. Pl. 13. 1760; Select. Stirp. Amer. Hist. 30, *t. 21.* 1763.

Type: Plum., Descr. Pl. Amér. 82, *t. 96.* 1693.

Syn.: *Echites paludosa* M. Vahl, Eclog. Amer. **2:** 19. 1798. (Type: America meridionali, *von Rohr 21* (holotype, C; IDC 2201. **25:** II. 6, photo!).)

Woody liana, glabrous. Leaves with petioles 1-2 cm long; blades obovate-oblong to oblong-lanceolate, 5-12 × 1.5-5 cm, base obtuse, apex abruptly mucronate, yellowish green, the upper surface lustrous. Inflorescences extra-axillary or subterminal, 1- to 5-flowered; peduncles as long as leaves; flowers with pedicels 1-1.3 cm long; calyx lobes ovate-oblong, 1-9 mm long; corolla tube 1.5-2 cm long, throat 2-3 cm long, lobes broadly and obliquely obovate, 2-2.5 cm long, spreading, pale pink; anthers included, pilose pubescent; nectaries half as long as ovary. Follicles terete, smooth, to 15 cm long.

GENERAL DISTRIBUTION: Greater Antilles, Trinidad.

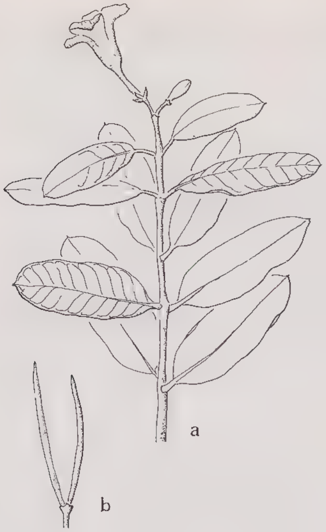
DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

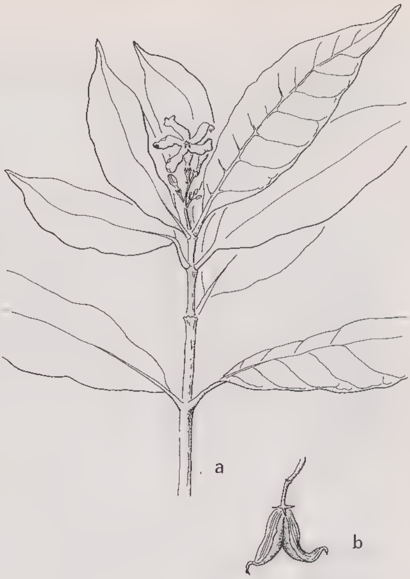
TABERNAEMONTANA L.

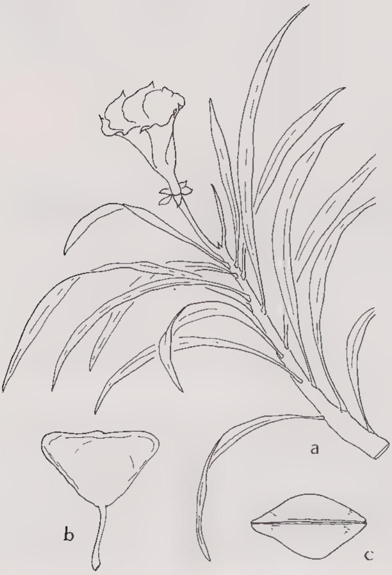
Tabernaemontana L., Sp. Pl. **1:** 210. 1753.

Syn.: *Ervatamia* (A. DC.) Stapf *in* Dyer, Fl. Trop. Afr. **4**(1): 126. 1902. (Type: *Ervatamia coronaria* (Jacq.) Stapf. Basionym: *Nerium coronarium* Jacq.) = *Tabernaemontana divaricata* (L.) R. Br.)

Shrubs or small trees. Leaves opposite, often anisophyllous, leathery, without domatia. Inflorescences axillary, compound cymose, few- to many-flowered; flowers with calyx 5-parted, lobes equal, with many glands inside; corolla salverform, 5-lobed, lobes overlapping to the left; stamens inserted on corolla tube, not connivent or agglutinated to style head, sagittate at base; ovary apocarpous, with or without basal glandular disk, style short, style head various. Fruit a stout, fleshy follicle, divaricate, tardily dehiscent; seeds many, arillate.







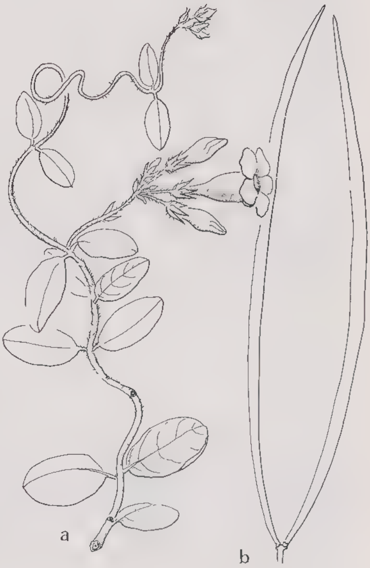


FIGURE 53 (upper left). *Rhabdadenia biflora*: a, flowering branch, × 0.3; b, fruit, × 0.3. FIGURE 54 (upper right). *Tabernaemontana citrifolia*: a, flowering branch, × 0.3; b, fruit, × 0.3. FIGURE 55 (lower left). *Thevetia peruviana*: a, flowering shoot, × 0.3; b, fruit, lateral view, × 0.3; c, fruit, dorsal view × 0.3. FIGURE 56 (lower right). *Urechites lutea*: a, flowering branch, × 0.3; b, fruit, × 0.3.

LECTOTYPE: *Tabernaemontana citrifolia* L., vide N. L. Britton & P. Wilson, Bot. Porto Rico **6:** 89. 1925.

A genus of 100 species of the tropics.

CULTIVATED SPECIES

Tabernaemontana cumingiana A. DC. (*Ervatamia cumingiana* (A. DC.) Markgraf). Reported by Duss to occur on Guadeloupe and Martinique.

Tabernaemontana divaricata (L.) R. Br. (*T. coronaria* (Jacq.) Willd.). Currently in cultivation on Montserrat.

Tabernaemontana pandacaqui Poiret. Currently in cultivation on Montserrat.

Tabernanthe iboga Baillon. Once cultivated in the Botanic Garden on Dominica.

Tabernaemontana citrifolia L., Sp. Pl. **1:** 210. 1753. FIGURE 54.

Type: None selected.

Shrub or small tree to 10 m tall, glabrous. Leaves with petioles 0.3-2 cm long; blades narrowly oblong-elliptic to obovate-elliptic, 6-19 × 2.5-9 cm, base cuneate, apex acuminate, firmly membranaceous. Inflorescences corymbose and much-branched, shorter than leaves; flowers with pedicels 7-12 mm long; calyx lobes ovate, 3-3.5 mm long; corolla tube 8-18 mm long, 2 mm in diameter, lobes narrowly obovate, 10-18 mm long, spreading to reflexed, cream to white; stamens exserted; ovary with annular nectary at base. Follicles ovoid-ellipsoid, 3-5.5 × 1-1.5 cm, conspicuously arcuate, longitudinally striate; seeds black, with orange-red aril.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Bahamas.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Milky bush, milk tree, bois-lait, bwa lét, bois pissant.

THEVETIA L.

Thevetia L., Opera Var. 212. 1758, nom. cons.

Shrubs or small trees. Leaves alternate, mostly with intrapetiolar glands. Inflorescences cymose, few- to several-flowered; flowers with calyx 5-parted, lobes equal, with many glands within; corolla tubular-campanulate to salverform, tube orifice with 5 small villous scales, lobes broadly obovate, spreading; anthers separate, with slightly enlarged connective; ovary apocarpous, nectary annular, fleshy, ovules 2 to 4. Fruits syncarpous, flattened; seeds 2 or 4, large, naked.

TYPE: *Cerbera ahouai* L. = *Thevetia ahouai* (L.) A. DC., typ. cons.

A genus of 9 species of tropical America.

Thevetia peruviana (Persoon) Schumann *in* Engler & Prantl, Nat. Pflanzenfam. **4**(2): 159. 1895. FIGURE 55.

Basionym: *Cerbera thevetia* L., Sp. Pl. **1:** 209. 1753.
Type: LINN 296.4.
Syn: *Cerbera peruviana* Pers., Syn. Pl. **1:** 267. 1805.
Thevetia nereifolia Juss. ex Steudel, Nomencl. Bot. ed. **1:** 180. 1821, nom. illegit. citing *Cerbera thevetia* L.
Cascabela peruviana (Pers.) Raf., Sylva Tellur. 162. 1838.
Cascabela thevetia (L.) Lippold, Repert. Spec. Nov. Regni Veg. **9:** 52. 1980.

Tree to 7 m tall, glabrous. Leaves sessile; blades linear, 10-15 × 0.6-1 cm, base cuneate-attenuate, apex obtuse, glossy. Cymes terminal, few-flowered; flowers with pedicels 2-4 cm long; calyx lobes triangular, 5 mm long, with numerous glands within at base; corolla tubular-campanulate above basal tube, tube 1-1.5 cm long, expanded throat 6-7 cm long, 3-3.5 cm in diameter, bright yellow, lobes 1-2 cm long, overlapping to the right. Fruits falcate, 2 × 3 cm, truncate above.

GENERAL DISTRIBUTION: Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAME: Lucky nut, bois-lait.

URECHITES Muell. Arg.

Urechites Muell. Arg., Bot. Zeitung (Berlin) **18:** 22. 1860.

Woody lianas. Leaves opposite, not glandular. Inflorescences extra-axillary to subterminal, scorpioid-cymose; flowers with calyx 5-parted, lobes subequal, with paired or numerous glands alternating within; corolla yellow, tube without appendages, lobes 5, overlapping to the right; anthers connivent and agglutinated to style head, connective enlarged, 2-lobed at base, long-appendaged at apex; ovary apocarpous, with 5 distinct or united nectaries, ovules numerous. Follicles 2, separate; seeds dry, narrowly rostrate, comose at apex.

TYPE: *Echites suberecta* Jacq. = *Urechites lutea* (L.) Britton.

A genus of two species of Florida, Mexico, Central America, and the West Indies. Hanson & Wunderlin's report (Taxon **35:** 166-8. 1986) of the older name *Pentalinon* Voigt (1845) was overlooked until too late to change this text. *Pentalinion luteum* (L.) Hans. & Wund. is correct.

Urechites lutea (L.) Britton, Bull. New York Bot. Gard. **5:** 316. 1907. FIGURE 56.

Basionym: *Vincd lutea* L., Cent. Pl. II: 12. 1756.
Type: Catesby, Nat. Hist. Carolina **2:** 53, *t. 53.* 1736.

Syn.: *Echites suberecta* Jacq., Enum. Syst. Pl. 13. 1760; Select. Stirp. Amer. Hist. 32, *t. 26.* 1763. (Type: Sloane, Voy. Jamaica **1:** *t. 130, fig. 2.* 1707.)
Echites christophoriana Ham., Prodr. Pl. Ind. Occid. 31. 1825. (Type: St. Kitts, specimen not located.)
Echites neriandra Griseb., Fl. Brit. W. Indian Is. 415. 1862. (Type: Syntypes cited.)

Woody climber, occasionally suberect, glabrous to variously pubescent. Leaves with petioles 2-12 mm long; blades oblong-linear, 3-6 × 2-5 cm, base rounded to subcordate, apex rounded, commonly emarginate, membranaceous, glabrous to pilose. Inflorescences extra-axillary, occasionally terminal; flowers with pedicels 10-15 mm long; calyx lobes linear-lanceolate, 8-17 mm long, acuminate, glands numerous within; corolla tubular-campanulate, tube proper 6-15 mm long, ca. 2 mm in diameter at base, flaring to tubular throat 1.5-3.5 cm long, lobes obovate, 1.8-3 cm long, spreading, bright yellow to cream-colored; nectaries about equaling ovary. Follicles stout, 8-20 cm long, glabrous; seeds numerous.

GENERAL DISTRIBUTION: Florida, Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Saba!, St. Eustatius!, St. Kitts!, Guadeloupe!, St. Vincent!.

COMMON NAMES: Lice bush, wild wist.

ASCLEPIADACEAE R. Br.

ASCLEPIADACEAE R. Br., Asclepiadeae 12, 17. 1810.

Perennial herbs, vines, or shrubs, most with white latex. Leaves opposite, simple, entire, usually with 2 or more glands at base of blade; exstipulate. Inflorescences axillary or extra-axillary cymes, often umbelliform or paniculiform. Flowers regular, perfect; calyx inferior, tube short, lobes 5, usually imbricate; corolla campanulate, urceolate, rotate, or infundibuliform, 5-lobed, segments often reflexed, with 5-lobed or 5-parted corona between corolla and androecium and adnate to one or the other, or to both, usually of a complex structure and shape; stamens 5, inserted on corolla, filaments generally short and united, or distinct, anthers connivent around style apex, more or less united, introrse, tipped with an inflexed or erect scarious appendage or membrane, or unappendaged, pollen granular or more often coherent in pollinia, these connected to style apex in pairs with corpuscles; ovary of 2 carpels, ovules usually numerous, styles 2, short, connected at apex by peltate discoid stigma. Fruit of 2 follicles, or more often 1 by abortion, smooth, winged or spiny; seeds compressed, usually with a long coma.

TYPE: *Asclepias L.*

A family of approximately 130 genera and more than 2000 species abundant in the tropics and subtropics. The following treatment is adopted from R. E. Woodson, Jr., Ann. Missouri Bot. Gard. **28:** 193-244. 1941, but modified with the valuable suggestions of W. Douglas Stevens.

With the exception of *Asclepias curassavica* and *Metastelma parviflorum*, most species have been poorly collected in the Lesser Antilles and existing specimens are inadequate. Approximately 12 species are known only from the original collections cited and these were destroyed in Berlin. Additional taxa are known only in flower and in many cases the fruit is not described.

KEY TO THE GENERA

1. Erect herbs or shrubs.
  2. Herbaceous plants often from stout woody caudex; leaves lanceolate, petiolate; corona hooded, with or without an inflexed horn; corolla reflexed, red, orange, or cream . . . . *Asclepias*
  2. Shrubs; leaves broadly elliptic, sessile or subsessile; corona segments spurred; corolla spreading, white outside, purplish inside . . . . *Calotropis*

1. Vines.
  3. Flowers small, the corolla lobes usually 1-2 mm long; follicles slender . . . . *Metastelma*
  3. Flowers exceeding 4 mm in length.
    4. Corolla tube more than 2 cm long.
      5. Corolla tubular, white, flowers aromatic. Cultivated . . . . *Stephanotis floribunda* Brogn.
      5. Corolla campanulate, lilac-purple. Cultivated or escaped . . . . *Cryptostegia madagascariensis* Bojer ex Decne.
    4. Corolla tube to 5 mm long, lobes spreading.
      6. Leaves cordate or hastate at base.
        7. Corolla urceolate; fruits prominently 7-winged; leaves distinctly hirsute . . . . *Macroscepis*
        7. Corolla rotate; fruits prominently beset with corky tubercles or weakly 5-winged; leaves glabrous or at least not hirsute.
          8. Leaves conspicuously felty-pubescent below; style apex bluntly rostrate; fruits tuberculate . . . . *Matelea*
          8. Leaves glabrous or inconspicuously pubescent; style apex concave; fruits winged . . . . *Gonolobus*
      6. Leaves rounded or obtuse at base.
        9. Leaves thick, fleshy; petioles thick and often curved; corolla rotate, petals thick; follicles slender, fusiform. Cultivated . . . . *Hoya carnosa* (L.) R. Br.
        9. Leaves thin; petioles slender; petals thin.
          10. Peduncles longer than the leaves; corolla rotate; corona of 5 bright, white, vesicular lobes . . . . *Sarcostemma*
          10. Peduncles shorter than the leaves; corolla rotate or campanulate; corona neither white nor vesicular.
            11. Inflorescences bifurcate, the branches racemose with long slender pedicels; corolla rotate; follicles divaricate, fusiform, to 8 cm long, 1 cm dia. . . . . *Tylophora*
            11. Inflorescences cymose, usually compact with short pedicels; corolla campanulate, urceolate, or tubular; follicles mostly single, ellipsoidal, 10-22 cm long, to 5 cm dia., apex usually obtuse . . . . *Marsdenia*

ASCLEPIAS L.

Asclepias L., Sp. Pl. **1:** 215. 1753.

Erect perennial herb or sometimes woody. Leaves petiolate; blades lanceolate. Inflorescences terminal or extra-axillary, umbelliform; corolla reflexed, red, orange, or cream; corona of 5 concave hoods, each with or without a subulate incurved horn; anthers with apical membranes, pollinia pendulous. Follicles obovoid or lanceolate.

TYPE: *Asclepias syriaca* L.

A genus of 150 species especially abundant in the United States.

KEY TO THE SPECIES

Corolla red or orange; corona lobes with exserted horns; follicles fusiform, smooth .... *A. curassavica*

Corolla cream; corona lobes without horns; follicles inflated, with filiform bristles, apex round.. *A. physocarpa*

Asclepias curassavica L., Sp. Pl. **1:** 215. 1753. FIGURE 57.

Lectotype: LINN 310.18 (ex Wijnands).
Syn.: *Asclepias nivea* L. var. *curassavica* (L.) Kuntze, Revis. Gen. Pl. **1:** 418. 1891.

Usually unbranched to 60 cm tall, stems finely pubescent. Leaves with petioles 5-15 mm long; blades lanceolate, 11-15 × 3.5-5 cm, base obtuse to acute, apex acuminate, slightly pubescent. Inflorescences usually several on upper nodes; peduncles to 8 cm long. Flowers 5 to 12 per inflorescence, on pedicels to 2 cm long; calyx lobes lanceolate, 2-3 × 1 mm; corolla segments elliptic, to 5 mm long, red or orange; corona yellow, exceeding style apex, each lobe with exserted horn. Follicles fusiform, 6-9 cm long, straight or slightly curved, smooth.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles, Mexico, Central America, South America, and introduced widely in tropical areas.

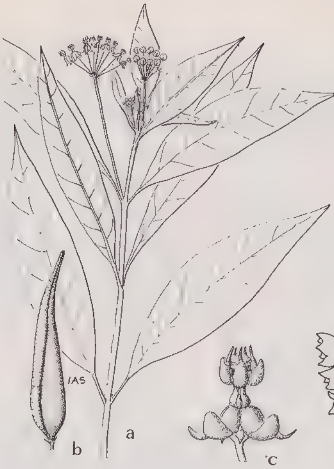
DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Saba!, Montserrat!, Guadeloupe!, Les Saintes!, Dominica!, Martinique!, St. Vincent!, the Grenadines!, Barbados!.

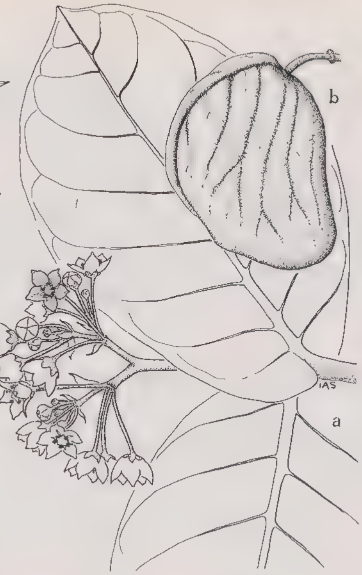
COMMON NAMES: Red head, blood flower, bastard ipacacuana, milkweed, johanna, bouton dou, zébe-man-boivin, quadrille.

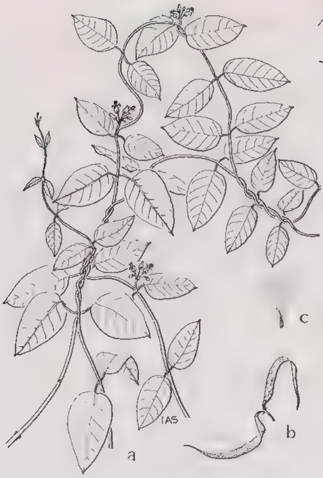
Asclepias physocarpa (E. Meyer) Schltr., Bot. Jahrb. Syst. 21 (Beibl. 54): 8. 1896.

Basionym: *Gomphocarpus physocarpus* E. Meyer, Comm. Pl. Afr. Austr. 202. 1837.
Type: No specimens cited.

Herbaceous or somewhat woody, to 2 m tall. Leaves with petioles 1 cm long; blades narrowly lanceolate, 7-12 × 1-1.4 cm, base cuneate, apex acuminate and ultimately apiculate, glabrous. Inflorescences lateral; pedun-







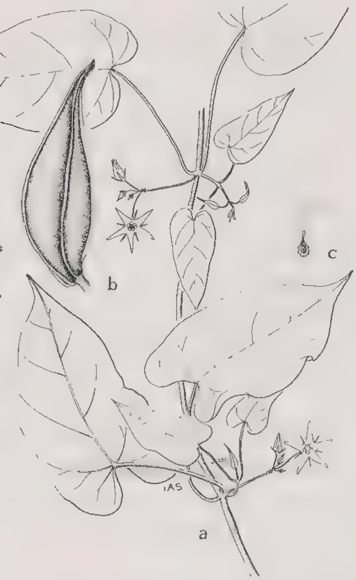


FIGURE 57 (upper left). *Asclepias curassavica*: a, habit, × 0.35; b, fruit, × 0.35; c, flower, × 1.5. FIGURE 58 (upper right). *Calotropis procera*: a, flowering branch, × 0.35; b, fruit, × 0.35. FIGURE 59 (lower left). *Metastelma parviflorum*: a, habit, × 0.35; b, dehisced fruit, × 0.35; c, seed, × 0.35. FIGURE 60 (lower right). *Gonolobus martinicensis*: a, flowering shoot, x 0.35; b, fruit, × 0.35; c, seed, × 0.35.

cles 3-5 cm long. Flowers 6 to 10 per inflorescence, on thin pedicels 1.5-2.5 cm long; calyx lobes linear-setaceous, 3-8 mm long; corolla lobes ovate-elliptic, 5-6 × 3-4 mm, cream; corona lobes quadrate, shorter than style apex, without horns. Follicles inflated and spongy when mature, 8-10 cm in diameter, apex rounded, densely covered with filiform bristles.

GENERAL DISTRIBUTION: Native of Africa and cultivated or escaped elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, La Désirade!, Dominica!.

CALOTROPIS R. Br.

Calotropis R. Br., Asclepiadeae 28. 1810.

Erect shrubs, flocculose becoming glabrous and glaucous. Leaves opposite, sessile or subsessile; blades broadly elliptic. Inflorescences lateral, extra-axillary, of umbellate cymes. Flowers with corolla broadly campanulate, 5-lobed, white outside, purple inside; corona lobes recurved (spurred) at base; pollinia pendulous. Follicles large, inflated and spongy.

TYPE: *Calotropis procera* (Aiton) Aiton f.

A genus of 6 species of tropical Asia and Africa, introduced elsewhere.

Calotropis procera (Aiton) Aiton f., Hortus Kew. **2:** 78. 1811.
FIGURE 58.

Basionym: *Asclepias procera* Aiton, Hort. Kew. **1:** 305. 1789.
Lectotype: Sloane Herb. 135, fol. 18; specimen from Mary, Duchess of Beaufort, ex Gillis.

Shrub to 3 m tall. Leaves subsessile; blades broadly obovate or orbiculate-elliptic, 12-27 × 8-14 cm, base subcordate, apex short-acuminate, glaucous. Cymes large, many-flowered; peduncles 3-7 cm long. Flowers on pedicels 1-3 cm long; calyx lobes ovate, 4-5 mm long; corolla 1.5-2.5 cm in diameter, lobes ovate, pointed, thick and fleshy, white or purplish. Follicles to 15 cm long, 9 cm broad and thick, inflated; seeds flat, orbicular, 5 mm in diameter, with hairs ca. 4 cm long.

GENERAL DISTRIBUTION: Native of the Old World tropics, widely introduced in the Neotropics.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Barbuda!, Antigua!, Montserrat!, Guadeloupe!, La Désirade!, Martinique!, St. Vincent!, the Grenadines!.

COMMON NAMES: French cotton, french jasmine, coton-france, arbre de soie, bois canon.

NOTE: *Calotropis gigantea* (L.) Aiton was reported by Maycock to be in cultivation on Barbados.

GONOLOBUS Michaux

Gonolobus Michaux, Fl. Bor.-Amer. **1:** 119. 1803.

Syn.: *Vincetoxicum* Walter, Fl. Carol. 13, 104. 1788, non Wolf (1776).

Herbaceous climbing plants. Leaves cordate, glabrous or inconspicuously pubescent. Cymes lateral, extra-axillary, pedunculate or subsessile, loose, few-flowered. Flowers green; calyx glandular at base within; corolla flat with short tube < 5 mm long, or almost none, usually with a faucal annulus; corona annular, borne at base of staminal column; anthers with dorsal membranaceous appendages, pollinia more or less horizontal; style apex concave with rather prominent angles. Follicles 5-winged, usually thick, acuminate.

LECTOTYPE: *Gonolobus gonocarpos* (Walter) Perry. Basionym: *Vincetoxicum gonocarpos* Walt., vide L. M. Perry, Rhodora **40:** 281-287. 1938.

A genus of more than 100 species of tropical America extending to central United States. In need of revision.

KEY TO THE SPECIES

Corolla lobes linear-lanceolate, 2 or 3 mm wide; fruits 4-7 cm long, to 2 cm dia. .... *G. denticulatus*

Corolla lobes oblong-ovate, 6-8 mm wide; fruits 12-14 cm long, 6-7 cm dia. .... *G. martinicensis*

Gonolobus denticulatus (M. Vahl) W. D. Stevens, Phytologia **64:** 334. 1988.

Basionym: *Cynanchum denticulatum* M. Vahl, Eclog. Amer. **2:** 23. 1798.
Type: Guiana, *von Rohr 120* (holotype, C; IDC 2201. **17:** III. 1).
Syn.: *Cynanchum viridiflorum* G. Meyer, Prim. Fl. Esseq. 141. 1818, nom. illegit., non Sims, 1817.
Gonolobus grenadensis Schltr. *in* Urban, Symb. Antill. **7:** 339. 1912. (Type: Grenada, *Broadway 3477.*)
Matelea viridiflora (G. Meyer) Woodson, Ann. Missouri Bot. Gard. **28:** 235. 1941.
Matelea denticulata (M. Vahl) J. Fontella & E. Schwarz, Bol. Mus. Bot. Munic. **46:** 4. 1981.

Climber, stems terete, puberulous to glabrate. Leaves with petioles 2-3 cm long, glabrate; blades oblong-elliptic, 5.5-8.5 × 3-5.5 cm, base cordate or hastate, apex acuminate, margin ciliate, otherwise nearly glabrous. Cymes with axis 0.5 cm long. Flowers on filiform pedicels 1.5-2 cm long, glabrate; calyx segments lanceolate, 0.7 cm long, acute, margins ciliate; corolla rotate, 3.5 cm in diameter, lobes linear-lanceolate, 1-1.6 × 0.2-0.3 cm, acute, one margin ciliate with long thin hairs, glabrous outside, hispidulous inside at least at the base; corona inconspicuous, glabrous; anthers transverse, elliptic, incurved; style apex depressed, round or slightly 5-angled. Follicles ovoid-acuminate, 4-7 cm long, to 2 cm in diameter, glabrous, smooth, with 5 low longitudinal wings.

GENERAL DISTRIBUTION: Central and tropical South America.

DISTRIBUTION IN LESSER ANTILLES: Grenada!.

Gonolobus martinicensis Decne. *in* DC., Prodr. **8:** 595. 1844.
FIGURE 60.

Syntypes: Martinique, *Plée s.n.* & *Surian 821* (P).
Syn.: *Gonolobus scandens* Urban, Repert. Spec. Nov. Regni Veg. **16:** 151. 1919, nom. illegit. (See note.)

Stems terete, glabrous. Leaves with petioles 3-5 cm long; blades ovate, 4-7 × 2.5-4 cm, base cordate, sinus broad and shallow, apex acuminate. Cymes racemosely subcorymbose; peduncle 2.5-4 cm long, glabrous. Flowers on pedicels 1.5-2.5 cm long; calyx segments lanceolate, 0.5 cm long, sparsely pilose; corolla lobes oblong-ovate, 1.5 × 0.6-0.8 cm, acuminate, green, weakly strigose outside, farinose-papillate inside; exterior corona annular, inner corona transversely ovate, fleshy. Follicles ovoid, 12-14 cm long, 6-7 cm in diameter, with 4 longitudinal wings.

GENERAL DISTRIBUTION: Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, St. Vincent!.

COMMON NAMES: Liane noire, liane-serpent.

NOTE: Urban's combination, based on "*Periploca scandens* Aublet," is illegitimate as the Aublet name was published in the index (Hist. Pl. Guiane **2:** Index p. 23, **1:** 273, no. 3. 1775) and refers to a polynomial. It is not a specific epithet.

MACROSCEPIS Kunth

Macroscepis Kunth, *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **3:** 156 (ed. folio), 201 (ed. quarto) *t. 233.* 1819.

Woody climbers. Leaves cordate, hirsute. Cymes lateral or extra-axillary, subsessile. Flowers large; calyx segments ovate-lanceolate; corolla urceolate, constricted at the mouth, limb 5-lobed; rotate or reflexed; corona lobes adnate to corolla tube for over half their length, fleshy, truncate, inflexed and partially closing mouth of corolla; filaments connate at base, anther apex inflexed; style apex flat to umbonate. Follicles heavy, strongly 7-winged.

TYPE: *Macroscepis obovata* Kunth = *Macroscepis diademata* (Ker-Gawler) W. D. Stevens.

A genus of about 20 species of tropical America.

Macroscepis hirsuta (M. Vahl) Schltr. *in* Urban, Symb. Antill. **1:** 265. 1899.

Basionym: *Cynanchum hirsutum* M. Vahl, Eclog. Amer. **2:** 24. 1798.
Type: Trinidad, *von Rohr 92* (holotype, C; IDC 2201. **17:** III. 3).

Syn.: *Macroscepis obovata* sensu Griseb., Fl. Brit. W. Indian Is. 421. 1861, non Kunth, 1818.
Matelea hirsuta (M. Vahl) Woodson *in* R. O. Williams, Fl. Trinidad **2:** 170. 1947.

Strong vine climbing to 7 m; stems hirsute with spreading brownish hairs. Leaves with petioles 1.5-4 cm long; blades rhombic-elliptic, 17 × 11 cm, base cordate, apex shortly and abruptly acuminate, firm in texture, soft hairy on both surfaces. Cymes few-flowered; peduncles 1-2 cm long. Flowers on pedicels 2-4 mm long; calyx lobes ovate, 1 cm long, acute; corolla tube 8 mm long, orifice almost closed by fleshy tips of corona lobes, lobes broadly ovate, 8 mm long and wide, obtuse, slightly recurved, green or brown; corona segments white. Follicles ovoid, to 12 cm long, acuminate, with 7 prominent wings 1.5 cm wide, two dorsal and 3 ventral run full length; seeds ovate, 7 mm long, base serrate, apex acute, coma 3.5 cm long.

GENERAL DISTRIBUTION: Lesser Antilles, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Vincent (*H. H. & G. W. Smith 1862* ex Schltr.)

MARSDENIA R. Br.

Marsdenia R. Br., Asclepiadeae 17. 1810.

Relatively stout vines, glabrous. Leaves with slender petioles, blades rounded or obtuse at base, thin. Cymes lateral and extra-axillary, umbelliform or paniculiform, sessile or pedunculate. Flowers with short pedicels; calyx with glands at base within, lobes usually blunt; corolla campanulate, urceolate, or tubular, shortly or deeply lobed, often hairy in throat; corona lobes erect, neither white nor vesicular; pollinia erect. Follicles mostly solitary, ellipsoidal, 10-22 cm long, to 5 cm in diameter, apex usually obtuse, smooth.

TYPE: *Marsdenia tinctoria* R. Br.

A genus of about 250 species mostly in the New World. For further information see G. Morillo, Acta Bot. Venez. **13:** 23-74. 1978.

KEY TO THE SPECIES

1. Corona lobes clearly exceeding style apex .... *M. macroglossa*
1. Corona segments equal to or shorter than style apex.
   2. Corolla lobes ciliate .... *M. macrophylla*
   2. Corolla lobes glabrous .... *M. dussii*

Marsdenia dussii Schltr. *in* Urban, Symb. Antill. **1:** 275. 1899; Repert. Spec. Nov. Regni Veg. **16:** 142. 1919.

Type: Martinique, *Duss s.n.*; Schlechter (loc. cit.) reported that a single specimen was sent to Th. Bernardi. Such a specimen can not be located in the Bernardi herbarium at MO.

Climber. Leaves with petioles 1 cm long; blades ovate-oblong, 5-6 × 2.5-3 cm, base obtuse, apex acuminate, glabrous. Peduncles equal to petiole. Flowers on pedicels 0.5 cm long, glabrous; calyx segments oblong, obtuse, glabrous; corolla campanulate, 0.4-0.5 cm long, tube short, lobes oblong, obtuse, glabrous; corona segments lanceolate-elliptic, equal to or shorter than style apex; anthers produced into an arcuate-erect apex. Fruits unknown.

GENERAL DISTRIBUTION: Known only from Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica, Martinique.

Marsdenia macroglossa Schltr. *in* Urban, Symb. Antill. **1:** 276. 1899.
FIGURE 61.

Type: Guadeloupe, *Duss 3774* (isotypes, A, MO, NY, US).
Syn.: *Metastelma schlechtendalii* sensu Duss, Fl. Phan. Antill. Franç. 398. 1897, non Decne., 1844.

Climber. Leaves with petioles 3-4 cm long; blades oblong-elliptic, 9-13 × 4.5-8 cm, base rounded, apex acuminate, glabrous, glands at base of midrib on upper surface. Peduncles terete, 1-1.5 cm long, glabrous. Flowers on pedicels 0.5 cm long, glabrous; calyx segments oblong, obtuse, margin ciliate; corolla campanulate, 0.5 cm long, tube short, lobes oblong, obtuse, erect, glabrous; corona lobes ovate, linear-ligulate, barely exceeding style apex; apex short-bifid. Follicles smooth, 11 cm long.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, the Grenadines!.

COMMON NAME: Vanille bâtard.

Marsdenia macrophylla (Humb. & Bonpl.) Fourn. *in* C. Martius, Fl. Bras. **6**(4): 321. 1885.

Basionym: *Asclepias macrophylla* Humb. & Bonpl. *in* Roemer & Schultes, Syst. Veg. **6:** 86. 1820.
Type: Venezuela, *Humboldt & Bonpland s.n.* (holotype, B-W 5270; IDC 7440. 360: I. 2).
Syn.: *Marsdenia fusca* Schltr. *in* Urban, Symb. Antill. **1:** 274. 1800, in part for *Duss 400.*
Marsdenia maculata Hooker f., Bot. Mag. *t. 4299.* 1847. (Type: Cultivated plant originally from Trinidad or Colombia; lectotype: Bot. Mag. *t. 4299.*)

Strong climber. Leaves with petioles 1-3 cm long; blades elliptic or oblong-elliptic, 10-25 × 5-20 cm, base cordate, apex acuminate, firm almost leathery, with 6 to 12 glands at base. Cymes densely many-flowered, with peduncles 1 cm long. Flowers on pedicels 7 mm long; calyx lobes broadly ovate, 4 × 2-3 mm, rounded above, ciliate on margins; corolla campanulate to urceolate with tube 2 mm long, lobes oblong, blunt, 7 × 3 mm, greenish-white outside, reddish-purple inside, glabrous except for ciliate margins and tufts of retrorse hairs opposite lobes inside tube; corona segments lanceolate, 3

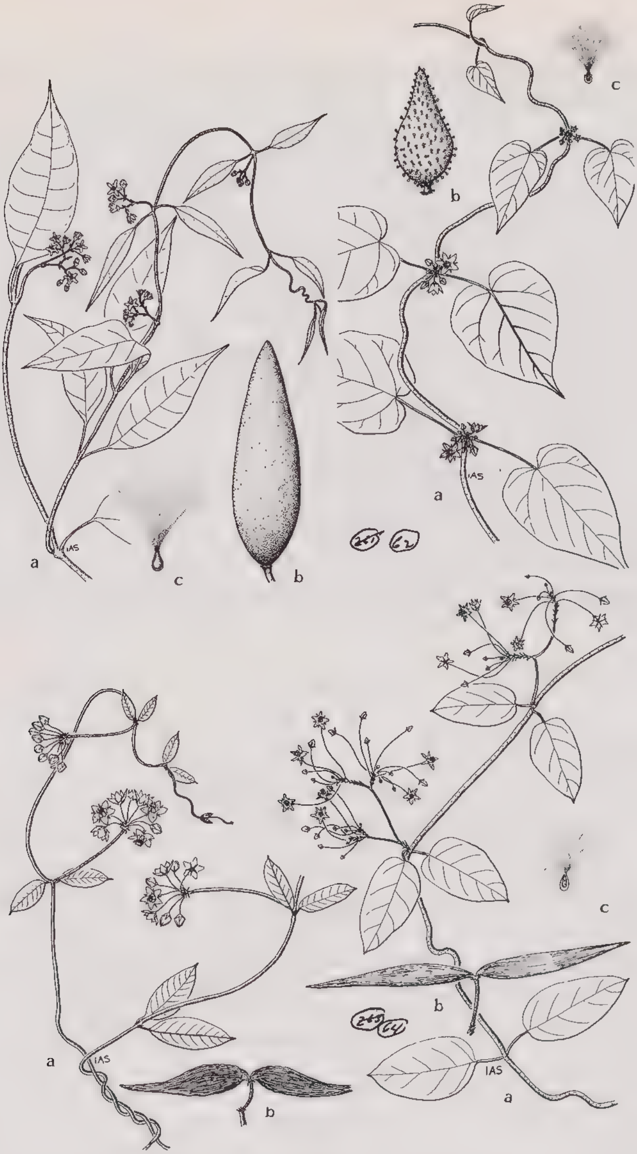


FIGURE 61 (upper left). *Marsdenia macroglossa*: a, flowering shoot, × 0.35; b, fruit, × 0.35; c, seed, × 0.35. FIGURE 62 (upper right). *Matelea maritima*: a, flowering shoot, × 0.35; b, fruit, × 0.35; c, seed, × 0.35. FIGURE 63 (lower left). *Sarcostemma clausum*: a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 64 (lower right). *Tylophora indica*: a, flowering shoot, × 0.35; b, fruit, × 0.35; c, seed, × 0.35.

mm long, acute, greenish-yellow; style apex terminated by conical undivided beak. Follicles ellipsoidal, to 22 × 5 cm, smooth, glabrous.

General distribution: Trinidad, Central America, northern South America.

Distribution in Lesser Antilles: Guadeloupe, Martinique!, St. Vincent!.

MATELEA Aublet

Matelea Aublet, Hist. Pl. Guiane 277, *t. 109.* 1775.

Climbers, stems often woody. Leaves cordate at base, conspicuously felty-pubescent below. Cymes lateral or extra-axillary, shortly peduncled or subsessile, usually few-flowered; flowers with corolla subrotate tube very short, to 5 mm long, lobes spreading; corona simple, flaring, denticulate; anthers without dorsal appendages; gynostegium short, sessile; style apex 5-angled, with an extended central filiform appendage; pollinia more or less horizontal. Follicles ovoid, thick, tuberculate.

Type: *Matelea palustris* Aublet.

A genus of nearly 150 species from central United States south into South America.

Matelea maritima (Jacq.) Woodson, Ann. Missouri Bot. Gard. **28:** 222. 1941. Figure 62.

Basionym: *Asclepias maritima* Jacq., Enum. Syst. Pl. 17. 1760.
Lectotype: Jacq., Select. Stirp. Amer. Hist. *t. 56.* 1763.
Syn.: *Cynanchum maritimum* (Jacq.) Jacq., Select. Stirp. Amer. Hist. 83, *t. 56.* 1763.
Ibatia maritima (Jacq.) Decne. *in* DC., Prodr. **8:** 599. 1844.
Ibatia muricata Griseb., Fl. Brit. W. Indian. Is. 421. 1861. (Type: Bot. Reg. *t. 931.*)

Woody climber, stems to 6 m long, tomentose, becoming corky at base. Leaves with petioles 1-4 cm long; blades broadly ovate, 4-9 × 3-6 cm, base cordate with narrow sinus, apex acuminate, short-hirsute above, crispose-pubescent below. Cymes sessile, few-flowered. Flowers on pedicels 2 mm long; calyx lobes ovate-lanceolate, 2 mm long, hairy; corolla lobes ovate-oblong, twice as long as calyx; corona simple, campanulate with 9 to 12 teeth, hispidulous within, hispid outside; style apex pentagonal, central protuberance to 2 mm long. Follicles 6-7 cm long, 3-5 cm in diameter, thickly set with corky stipitate tubercles, densely pubescent.

General distribution: Hispaniola, Puerto Rico, Panama, northern South America.

Distribution in Lesser Antilles: St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius, St. Kitts!, Montserrat!, Guadeloupe!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

Common names: Corossol à chien, coirossol-diable.

METASTELMA R. Br.

Metastelma R. Br., Asclepiadeae 41. 1810.

Syn.: *Cynanchum sensu* authors, West Indies, in part.
Decastelma Schltr. *in* Urban, Symb. Antill. **1:** 264. 1899. Type: *Decastelma broadwayi* Schltr.

Plants mostly delicate vines, with latex. Leaves petiolate, often early caducous. Cymes lateral, extra-axillary, umbelliform, peduncled or sessile. Flowers on filiform pedicels; corolla subrotate or campanulate with lobes usually 12 mm long; corona membranous, of 5 separate laminar or filiform units; pollinia pendulous; gynostegium sessile or stipitate, style apex flat. Follicles acuminate, smooth, frequently paired.

TYPE: *Metastelma parviflorum* (Sw.) R. Br. ex J. A. Schultes. (Basionym: *Cynanchum parviflorum* Sw.).

A genus of about 150 species of tropical and subtropical America. Recent floras of the Neotropics have followed Woodson (1941) recognizing *Cynanchum* with many synonyms, including *Metastelma*. Recently, W. D. Stevens and others distinguish *Metastelma* but also recognize *Cynanchum* as occurring in the Neotropics. *Metastelma bahamense* Griseb. was reported to occur on Antigua by Dandy as *Cynanchum* in an unpublished manuscript.

KEY TO THE SPECIES

1. Buds clavate, constricted at the middle; gynostegium long-stipitate .... *M. parviflorum*
1. Buds globose; gynostegium sessile to subsessile.
    2. Corona segments exceeding the gynostegium.
        3. Calyx segments broadly ovate, acute; corona lobes lanceolate, straight .... *M. barbadense*
        3. Calyx segments ovate, subacuminate.
            4. Corona lobes erect, linear .... *M. grisebachianum*
            4. Corona lobes incurved or hooked at apex, linear-ligulate .... *M. martinicense*
    2. Corona segments shorter than or only equaling the gynostegium.
        5. Leaves elliptic or oblong-elliptic, 1-1.8 cm wide, bicolorous, dark green above, lighter below .... *M. broadwayi*
        5. Leaves oblong, 0.4 cm wide, concolorous .... *M. readii*

Metastelma barbadense Schltr. *in* Urban, Symb. Antill. **1:** 253. 1899.

Lectotype: Barbados, *Waby 61* (K). See Notes.
Syn.: *Metastelma parviflorum* sensu Duss, Fl. Phan. Antill. Franç. 398. 1897, in part, non *Cynanchum parviflorum* Sw.
Cynanchum barbadense (Schltr.) Howard, Phytologia **65:** 285. 1988.

Branches filiform, terete, glabrous. Leaves on petioles to 0.5 cm long, blades lanceolate or ovate-lanceolate, 1.5-3 × 0.7-1.2 cm, base obtuse, apex acuminate or apiculate, chartaceous, glabrous. Cymes 2 to 5-flowered, peduncle short, pedicels subglabrous; flowers with globose buds; calyx segments broadly ovate, acute, puberulent at base, margins scarious, ciliate; corolla 3 times as long, lobes oblong to oblong-ligulate, apiculate, margin papillose-puberulent, glabrous abaxially, puberulent adaxially over full surface; corona segments sublanceolate, attenuate, incurved at apex; anthers subquadrate, rounded at base; gynostegium sessile. Follicles not known.

GENERAL DISTRIBUTION: Known only from Barbados.

NOTE: In the original description Schlechter cited *Duss 347* from Martinique and *Waby 61* from Barbados. The Berlin material of *Duss 347* that Schlechter saw was destroyed and a duplicate of *Duss 347* (NY) is *Cynanchum grisebachianum.*

Metastelma broadwayi (Schltr.) Howard, comb. nov.

Basionym: *Decastelma broadwayi* Schlechter *in* Urban, Symb. Antill. **1:** 265. 1899.
Syntypes: Grenada, *Broadway 474, 1483.*
Syn.: *Cynanchum broadwayi* (Schltr.) Woodson *in* R. O. Williams, Fl. Trinidad **2:** 168. 1947.

High climber, branches slender, round, minutely puberulent to glabrate. Leaves on petioles 3 mm long; blades elliptical or oblong-elliptical, 3-4.5 × 1-1.8 cm, base acute to rounded, apex apiculate, dark green above, light green below. Inflorescences few-flowered, sessile; flowers with globose buds, pedicels 3 mm long, calyx lobes orbicular to ovate, 0.5 mm long, blunt; corolla campanulate or urceolate, 1 mm long, lobes oblong, acute, white-bearded inside, corona segments shorter than gynostegium, broader than long; gynostegium sessile. Fruit unknown.

GENERAL DISTRIBUTION: Grenada, Tobago.

DISTRIBUTION IN LESSER ANTILLES: Grenada!.

NOTES: N. E. Brown (Bull. Torrey Bot. Club **51:** 5. 1924) in a commentary on *Decastelma broadwayi* Schltr. suggested the type to be *Broadway 474.* On the specimen at Kew marked "type" he noted, "Schlechter's description, as usual, is all wrong, there are not 10 coronal lobes, but only 5, which are 3-toothed, with the middle tooth very small." This specimen also has curly translucent hairs, each with a red tip. The inflorescence appears to be an umbelliform cyme and occurs in an extra-axillary position but associated with persistent leaves. W. D. Stevens (pers. comm.) suggested this might be a species of *Tassadia.*

Metastelma grisebachianum Schltr. *in* Urban, Symb. Antill. **5:** 469. 1908 (as nom. nov.).

Replaced Syn.: *Metastelma albiflorum* Schltr. *in* Urban, Symb. Antill. **1:** 250. 1899, non Grisebach (1861). (Syntypes: Puerto Rico, *Stahl 990b, Sintenis 1251*; St. Thomas, *Breutel 44.*)
Syn.: *Metastelma decaisneanum* Schltr. *in* Urban, Symb. Antill. **1:** 250. 1899. (Type: Many syntypes cited.)

Cynanchum decaisneanum (Schltr.) Alain, Mem. Soc. Cub. Hist. Nat. **22:** 119. 1955, non R. Holm (1953).
Cynanchum grisebachianum (Schltr.) Alain, Rhodora **67:** 346. 1965.

Glabrous or nearly so, young parts puberulent. Leaves on petioles 2-5 mm long; blades ovate to oblong-ovate, 2-2.5 × 0.5-1 cm, base rounded, apex acute or apiculate. Cymes subsessile, few to several-flowered; flowers with globose buds; pedicels 2-5 mm long; calyx lobes ovate, less than 1 mm long, subacuminate, puberulent or ciliolate, less than 1 mm; corolla lobes ovate-oblong, to 2 mm long, obtuse, glabrous or puberulent within; corona lobes linear, erect, exceeding gynostegium, gynostegium sessile. Fruits unknown.

GENERAL DISTRIBUTION: Florida, Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: Antigua, St. Eustatius!, Guadeloupe!, Martinique!, St. Vincent!.

NOTE: Ferreira & Fontella (Bol. Mus. Bot. Munic. **30:** 4. 1977) assign *Metastelma decaisneanum* Schltr. to the synonymy of *Metastelma parviflorum* (Sw.) Roem. & Schultes without comment. They do not designate a lectotype from syntypes originally indicated nor is there evidence that they saw the specimens involved.

Metastelma martinicense Schltr. *in* Urban, Symb. Antill. **1:** 251. 1899.

Type: Martinique, Fort Vaillant, *Hahn 403* (lectotype, K; isolectotype, GH!).
Syn.: *Cynanchum martinicense* (Schlechter) Howard, Phytologia **64:** 285. 1988.

Slender climber, stems, terete, glabrous. Leaves on petioles to 0.5 mm long; blades lanceolate to ovate-lanceolate, 1.5-2.5 × 0.5-1.2 cm, apex acuminate, paler beneath, glabrous. Cymes few-flowered, subumbelliform; peduncle glabrous; flowers with globose buds, pedicels subglabrous; calyx segments ovate, subacuminate, glabrous inside, glabrous outside except on midrib; corolla lobes oblong, 2-2.2 mm long, papillose along the edges; corona lobes linear-ligulate, exceeding the gynostegium, apex 1.75 mm long, incurved; gynostegium sessile. Follicles to 5 cm long, 0.3 cm in diameter.

GENERAL DISTRIBUTION: Known only from Martinique.

NOTE: The combination in *Cynanchum* as given by Fournet (1978) was not validly published.

Metastelma parviflorum (Sw.) R. Br. ex J. A. Schultes *in* Roemer & Schultes, Syst. Veg. **6:** 120. 1820. FIGURE 59.

Basionym: *Cynanchum parviflorum* Sw., Prodr. 53. 1788.
Type: India occidentalis, *Swartz s.n.* (holotype, S, ex Ferreira & Fontella, Bol. Mus. Bot. Munc. **30:** 6. 1977).
Syn.: *Metastelma paralias* Decne. *in* DC., Prodr. **8:** 514. 1844. (Syntypes: St. Martin, *Plée s.n.*; Guadeloupe, *Bertero s.n.*, *Krauss s.n.*)

Acrocoryne caribaea Turcz., Bull. Soc. Imp. Naturalistes Moscou **25:** 316. 1852. (Type: Guadeloupe, *Funck & Schlim 14* (holotype, LE).)
Metastelma suberosum Griseb., Fl. Brit. W. Indian Is. 417. 1861. (Syntypes cited including *Imray s.n.* from Dominica.)

Slender climber to 4 m or more, glabrous or nearly so. Leaves on slender petioles to 1 cm long; blades ovate to oblong-elliptic, 2-4 × 0.5-1.5 cm, base rounded, apex acute and apiculate. Cymes few-flowered, very short-peduncled to almost sessile; flowers with buds clavate, constricted at middle; pedicels 2-3 mm long; calyx lobes ovate, ca. 1.3 mm, acute, margin clear, ciliolate; corolla white, greenish-white, or yellowish, lobes oblong-lanceolate, to 3 × 1.5 mm long, white-puberulent along margins within; corona segments linear-spathulate, 2.5-3 mm long, erect; gynostegium long-stipitate, 3 mm long. Follicles 3-5 cm long.

GENERAL DISTRIBUTION: Puerto Rico, Virgin Islands, Trinidad, Margarita.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Barbuda!, Antigua!, Redonda!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, Martinique!, St. Vincent!, Barbados!.

COMMON NAMES: Liane à corde, corde à violon.

Metastelma readii Schltr. *in* Urban, Symb. Antill. **1:** 255. 1899.

Syntypes: Cuba, *Greene s.n.*, Guadeloupe, *Read s.n.* cited. (No lectotype designated.)
Syn.: *Cynanchum readii* (Schltr.) Alain, Flora de Cuba **4:** 207. 1957, comb. illegit. as reference to place of publication is lacking; see ICBN Art. 33.2; Howard, Phytologia **65:** 285, 1988.

Climbing plant, stems filiform, glabrous. Leaves on petioles 0.2 cm long; blades oblong, 0.8-1.2 × 0.4 cm, base rounded to subcordate, apex short-apiculate, glabrous, small glands on midrib upper surface at base of blade. Cymes few-flowered, short-pedunculate; flowers with globose buds, pedicels filiform, 0.3 cm long, glabrous; calyx segments ovate-oblong, obtuse, sparsely puberulent; corolla 3 × as long as calyx, lobes oblong, 2 mm long, obtuse, abaxially glabrous, adaxially glabrous in middle, papillose-puberulent on margins; corona lobes erect, broadly semi-ovate, obtuse, equal to gynostegium, gynostegium sessile or subsessile. Follicles unknown.

GENERAL DISTRIBUTION: Cuba, Guadeloupe.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, (*Read* ex Schltr.).

NOTES: The original material cited by Schlechter, once in Berlin, has been destroyed. A Read specimen (PH #001303) bears a label, ''An Echites? Cuba, Read,'' and was deposited by Maria Eckert. The specimen is sterile and can not be associated with the original description. The citation in the Flora of Cuba does not indicate additional specimens have been seen.

SARCOSTEMMA R. Br.

Sarcostemma R. Br., Mem. Wern. Soc. **1:** 50. 1809.

Climbers. Leaves with slender petioles, blades rounded to obtuse at base, thin. Cymes umbelliform, lateral, with peduncles longer than leaves; flowers with small calyx; corolla rotate or broadly campanulate, tube to 5 mm long; corona of 5 closed, inflated vesicles, bright white, joined at bases by fleshy ring adnate to throat of the corolla; pollinia pendulous. Follicles elongated, smooth.

LECTOTYPE: *Sarcostemma vimiale* (L.) R. Br. ex R. W. Holm.

As recognized by Holm (Ann. Missouri Bot. Gard. **37:** 477-560. 1950) a genus of 35 species of warm and tropical areas. Bullock (Kew Bull. **11:** 504-7. 1956) challenged Holm for lumping *Funastrum* and *Philibertia* into *Sarcostemma* and suggested that they should be recognized as distinct genera.

Sarcostemma clausum (Jacq.) Schultes *in* Roemer & Schultes, Syst. Veg. **6:** 114. 1820. FIGURE 63.

Basionym: *Asclepias clausa* Jacq., Enum. Syst. Pl. 17. 1760.

Type: Not designated.

Syn.: *Cynanchum clausum* (Jacq.) Jacq., Select. Stirp. Amer. Hist. **1:** 87, *t. 60, fig. 2.* 1763. (Type: Jacquin's illustration consists of a single leaf and one flower and is scarcely representative of the species. A neotype should be chosen for this taxon.)
Sarcostemma brownei G. Meyer, Prim. Fl. Esseq. 139. 1818, an illegitimate renaming of *Cynanchum clausum.*
Philibertia clausa (Jacq.) Schum. *in* Engler, Pflanzenfam. IV, **2:** 229. 1895.
Philibertella clausa (Jacq.) Vail, Bull. Torrey Club **24:** 306. 1897.
Funastrum clausum (Jacq.) Schltr., Repert. Spec. Nov. Regni Veg. **13:** 283. 1914.

Glabrous twiner with slender branches. Leaves with petioles 0.5-1.5 mm long; blades lanceolate-elliptic or oblong-elliptic, 3-6 × 0.8-2.5 cm, base rounded or subtruncate, apex tapering to an acute point, glands several at base of midrib upper surface. Cymes 10- to 20-flowered, on stout peduncles 4-12 cm long. Flowers on pedicels 1.5-2 cm long; calyx pubescent, lobes triangular, to 3 mm long, acute; corolla parted to base, lobes ovate, 7 × 5 mm, blunt, greenish-white and silky outside, paler and mostly glabrous within; corona segments obovate-oblong, 3 × 1.5 mm, shiny white. Follicles, 5-8 cm long, 1 cm in diameter, narrowed at base, tapering at apex, glabrous.

GENERAL DISTRIBUTION: Southern Florida, Greater Antilles, Mexico and Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: The Grenadines!, Grenada!, Barbados.

TYLOPHORA R. Br.

Tylophora R. Br., Mem. Wern. Soc. **1:** 28. 1809.

Herbaceous vines. Leaves with slender petioles; blades rounded or obtuse at base, thin. Inflorescences extra-axillary, bifurcate then racemose, with peduncles shorter than leaves; flowers small, long-pedicellate; sepals ovate; corolla rotate; corona 5-lobed, arising from and adnate to the staminal column, free from corolla, simple, fleshy; anther tip thin, inflexed, pollinia transverse to subascending; style apex disciform, 5-angled. Follicles divaricate, fusiform, commonly strongly reflexed when mature, smooth, compressed, apex attenuate.

LECTOTYPE: *Tylophora flexuosa* R. Br., vide A. A. Bullock, Kew Bull. 1954: 580. 1954.

A genus of 50 species of the Old World tropics and South Africa. The following species appears to be the only introduction in the West Indies.

Tylophora indica (Burm. f.) Merr., Phil. J. Sci. **19:** 373. 1921.
FIGURE 64.

Basionym: *Cynanchum indicum* Burm. f., Fl. Indica 70. 1768.
Type: No specimens were cited although Merrill referred to a Burman specimen.
Syn.: *Asclepias asthmatica* L. f., Suppl. Pl. 171. 1781. (Type: Ceylon, *König s.n.*)
Cynanchum vomitoria Lam., Encycl. **2:** 235. 1786. (Type: Mauritius, *Sonnerat s.n.*).
Cynanchum mucronatum Jackson *in* Andrews, Bot. Rep. **8:** 515. 1807. (Type: Bot. Rep. plate 515 drawn from living plants of Trinidad origin obtained from Lord Seaforth of Barbados.)
Cynanchum viridiflorum Sims, Bot. Mag. *pl. 1929.* 1817. (Type: Bot. Mag. *pl. 1929.*)
Tylophora asthmatica (L. f.) Wight & Arn. *in* Wight, Contr. Bot. India 51. 1834.
Tylophora vomitoria (Lam.) J. Voigt, Hort. Suburb. Calc. 539. 1845.

Weak herbaceous vine, glabrous or tomentose. Leaves with petioles 7-12 mm long; blades ovate to oblong-ovate, 3-8 × 1.2-4 cm, base rounded or obtuse, apex subrounded to acuminate, glabrous above. Peduncles 1-2 cm long; flowers on pedicels 2-3.5 cm long; sepals lanceolate, hispid; corolla segments acute, tube purple, tomentose within, lobes cream-yellow. Follicles 5 × 1 cm, tapered at apex, glabrous.

GENERAL DISTRIBUTION: Native of tropical Asia.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, St. Lucia!, St. Vincent!, the Grenadines!, Barbados!.

NOTE: Listed by Anderson as an introduction to the St. Vincent Botanic Garden by 1806.

CONVOLVULACEAE

by Dulcie A. Powell
revised by G. W. Staples

CONVOLVULACEAE A. L. Juss., Gen. Pl. 132. 1789.

Annual or perennial, twining or prostrate plants, lianas, erect shrubs, or occasionally trees. Leaves alternate, simple, lobed, or palmately or pinnately compound; rarely stipulate. Flowers axillary, solitary or in cymes, bracteate; aestivation induplicate (imbricate in *Cuscuta*), exposed portions of bud thickened and forming a star in open flower; sepals (4 or)5, usually free, imbricate, equal or unequal, persistent; petals (4 or)5, fused, limb entire or lobed, generally actinomorphic, usually showy; stamens alternate with corolla lobes, inserted near base of corolla tube (except in *Cuscuta*), usually flattened and bearing glandular hairs at their bases; ovary often surrounded by disc, superior, with (1 or)2(to 4) locules, ovules erect on axile placentae, style(s) 1 or 2. Fruit a capsule dehiscing by valves, circumscissile, splitting irregularly, or an indehiscent berry or drupelet; seeds usually 4, glabrous or hairy.

TYPE: *Convolvulus* L.

A family of 40 to 50 genera with about 1200 species; largely tropical and warm temperate in distribution. Ten genera and 58 species are native or naturalized in the Lesser Antilles. This treatment, although following Powell (J. Arnold Arb. **60:** 219-271. 1979), contains taxonomic emendations that bring it into accordance with the recent works of D. Austin, Ann. Missouri Bot. Gard. **64:** 330-339. 1977 [1978] (*in* Correll & Correll, Fl. Bahama Archipelago, 1982); D. Austin & G. Staples (J. Arnold Arbor. **64:** 483-489. 1983), and G. Staples & D. Austin (Brittonia **33:** 591-596. 1981).

KEY TO THE GENERA

1. Plants parasitic; stems yellow or orange; leaves reduced to scales.... *Cuscuta*
1. Plants autotrophic, with green leaves.
    2. Herb or undershrub, not twining; styles 2, free.............. *Evolvulus*
    2. Shrub or usually twining or trailing vines; style 1.
        3. Flowers small and numerous, creamy white, borne in large panicles; a cultivated woody climber with palmately veined leaves........ *Poranopsis*
        3. Flowers larger, solitary or in few-flowered inflorescences; leaves pinnately veined.
            4. Stems and leaves bearing branched trichomes, especially when young.
                5. Stigmas filiform.............................. *Convolvulus*
                5. Stigmas flattened, tongue-shaped, not filiform.... *Jacquemontia*
            4. Plants with simple trichomes or glabrous.
                6. Pollen spinose; corollas not yellow in Lesser Antillean taxa.
                    7. Fruits dehiscent, septifragal capsules............. *Ipomoea*
                    7. Fruits indehiscent.

8. Fruits ellipsoid, usually 1-seeded; flowers white with dark throat . . . . *Turbina*
8. Fruits globose to subglobose, several seeded; flowers red or lavender.
9. Sepals and lower leaf surfaces gland-dotted. . . . . *Stictocardia*
9. Sepals, lower blades, and stems densely white tomentose; massive cultivated vine . . . . *Argyreia*
6. Pollen non-spinose; flowers often yellow (white in *Aniseia*).
10. Leaves simple, entire, narrowly elliptic . . . . *Aniseia*
10. Leaves palmately lobed or divided, or if simple, then broadly ovate.
11. Stems, petioles, peduncles or pedicels often winged; upper exocarp separating as an operculum . . . . . . *Operculina*
11. Stems, etc. wingless; capsules septifragal or dehiscing irregularly, never operculate . . . . *Merremia*

ANISEIA Choisy

Aniseia Choisy, Mém. Soc. Phys. Genève **6:** 481. 1834.

Herbs, twining or prostrate, scarcely branching, glabrous or glabrescent. Leaves short-petiolate, elliptic to oblong-lanceolate, mucronate. Flowers axillary, solitary or few; bracts 2, very small; sepals unequal, enlarging in fruit, the outer 3 larger and often decurrent; corolla funnelform, white, with hairs on outer surface of interplicae; pollen smooth, aggrecolpate; ovary bilocular, ovules 4, stigma biglobose. Capsules 4-valved.

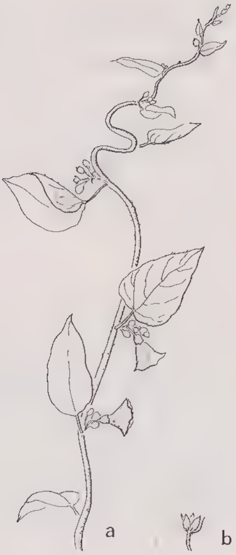
Lectotype: *Aniseia martinicensis* (Jacq.) Choisy, based on *Convolvulus martinicensis* Jacq. (vide O'Donell, Lilloa **29:** 367. 1959).

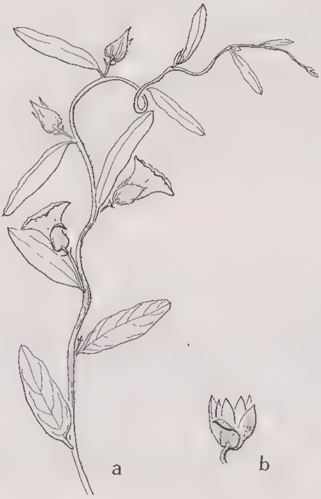
A genus of 4 species in the neotropics; widely established in the Old World as well.

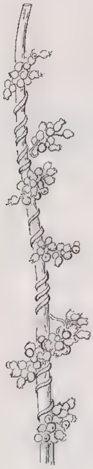
Aniseia martinicensis (Jacq.) Choisy, Mém. Soc. Phys. Genève **8:** 66. 1838. Figure 65.

Basionym: *Convolvulus martinicensis* Jacq., Select. Stirp. Amer. Hist. 26, *t. 17.* 1763.
Type: "Habitat in umbrosis saepe inundatis circa vicum Roberti in Martinica"; no specimen found. (Lectotype, loc. cit. *t. 17*; chosen by Austin & Cavalcante, Convolvuláceas da Amazonia 11. 1982).
Syn.: *Convolvulus pterocarpus* Bertero *in* Colla, Hortus Ripul. 37. 1824. (Type: "Habitat in sepibus locis humidis et ad fossas in Guadalupa [Grande-Terre]: fl. Martio," in 1819, *Bertero s.n.* (holotype, ?TO, n.v.; isotype, G-DC, n.v., IDC 2562. 1649: I. 3, photo!).)

Annual, 2-4 m long with few branches, rooting freely along stems, climbing or prostrate, growing in moist places, glabrous or with appressed, simple, golden hairs. Leaves with short petioles, to 1 cm long; blades narrowly elliptic, ca. 6 cm long, apex rounded, mucronate. Flowers solitary or in few-flowered cymes; peduncle much longer than subtending petiole, bearing 2 small bracts at base of each pedicel; sepals acute to acuminate, outer 3 ovate-







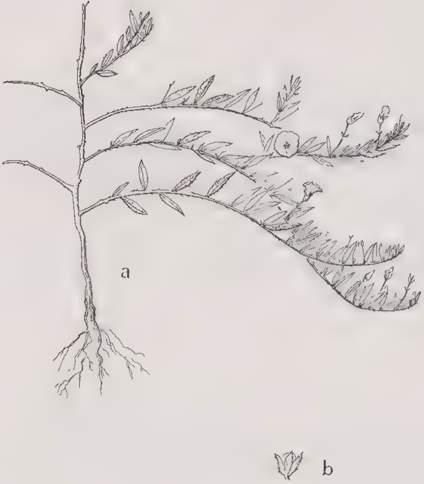


FIGURE 65 (upper left). *Aniseia martinicensis*: a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 66 (upper right). *Convolvulus nodiflorus*: a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 67 (lower left). *Cuscuta globulosa*, × 0.35. FIGURE 68 (lower right). *Evolvulus antillanus*: a, habit, × 0.35; b, fruit, × 0.35.

cordate, much larger than inner 2, pubescent; corolla twice as long as calyx, outer surface of interplicae with hairs forming tuft at tips of corolla lobes; anthers bearing glandular vesicles. Capsules brown, glabrous, inner surface of valves pearly smooth, cream-colored; seeds carinate-subglobose, 2-3 mm long, very dark brown, with tuft of ferrugineous hairs at hilum.

GENERAL DISTRIBUTION: Ubiquitous in lowland, wet tropics.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Marie Galante, Martinique!.

COMMON NAMES: Liseron savane, patate marron, petit liseron.

CONVOLVULUS L.

Convolvulus L., Sp. Pl. 153. 1753; Gen. Pl. ed. 5. 76. 1754.

Herbs or shrubs, twining, prostrate or erect, glabrous or pubescent, the hairs simple or branched. Leaves usually entire. Inflorescences axillary cymes or terminal heads or flowers solitary; bracts variable, persistent. Flowers with sepals persistent; corolla funnelform or campanulate, white, pink, blue, purple, or yellow; stamens included, pollen smooth, 3-colpate; ovary 2-locular, ovules 4, style 1, stigmas 2, filiform. Capsules 4- or 8-valved; seeds 4 or fewer, 3-angled with two sides flat and one convex, glabrous or pubescent, often rough.

LECTOTYPE: *Convolvulus arvensis* L. (vide A. S. Hitchcock & M. L. Green, Prop. Brit. Bot. 130. 1929).

A genus of perhaps 250 species in the warm temperate, arid zones of Eurasia, the circum-Mediterranean region, the American West, and Andean South America. Few species occur in the tropics of either hemisphere. Sa'ad (Meded. Bot. Mus. Herb. Rijks Univ. Utrecht no. 281. 1967) provides an excellent overview of the genus.

Convolvulus nodiflorus Desr. *in* Lam., Encycl. **3:** 557. 1792.

FIGURE 66.

Type: Santo Domingo, without locality, *Jos. Martin s.n.* (holotype, P-LA, n.v.; IDC 6207. **462:** II. 2, photo!).

Woody vine, pubescent with short, 3-armed hairs or glabrescent. Leaves with petioles ± 1(-2.5) cm long; blades ovate, to 6 cm long, base cordate, subcordate, truncate, or very slightly cuneate (Grenada specimens) with sides tending to be subequal, apex usually acute or acuminate, mucronate, margin entire, pubescent or glabrate. Inflorescences with flowers many and crowded to few or occasionally solitary; peduncles usually shorter than subtending petioles; bracts small, pubescent. Flowers with pedicels less than 1 cm long, pubescent or glabrous; sepals 2-3 mm long, apex rounded or obtuse, scarious on edges, glabrous or pubescent; corolla widely funnelform, flaring from base, slightly or distinctly lobed, 11-14 mm long, white; stamens included; stigmas exserted at maturity. Capsules ovoid, 3-4 mm high, splitting into 4 and then 8 valves; seeds 4 or fewer, ruminate, narrowly winged on margins, brown, glabrous.

General distribution: Widespread in the West Indies, Central and South America.

Distribution in Lesser Antilles: St. Martin, St. Barts!, Guadeloupe!, Martinique, St. Lucia, St. Vincent!, the Grenadines!, Grenada!, Barbados.

Note: This species has long been misidentified as a *Jacquemontia.*

CUSCUTA L.

Cuscuta L., Sp. Pl. **1:** 124. 1753.

Total parasites, herbaceous, twining, attached to host by haustoria; stems orange or yellow, shiny-smooth, brittle, containing clear sap. Leaves reduced to scales. Inflorescences crowded, bracteate cymes. Flowers small, white or cream; perianth pentamerous in West Indian species; sepals united basally, free above; stamens inserted on rim of corolla tube, with fimbriate scale borne below each one, pollen smooth, 3-colpate; ovary bilocular, each locule with 2 ovules, styles 2 (in West Indian species), with capitate stigmas. Fruit a thin-walled capsule, sometimes circumscissily dehiscent; seeds (1 to)4.

Lectotype: *Cuscuta europaea* L. (vide N. L. Britton & A. Brown, Ill. Fl. N. U.S. ed. 2, **3:** 48. 1913).

A genus of some 140 to 150 species of worldwide occurrence in temperate and tropical climates. Individual species of *Cuscuta* often have marked preferences for certain host species; when the host species are economically important, then *Cuscuta* may become a noisome weed. The works of Yuncker (Univ. Illinois Biol. Monog. **6:** 1-142. 1921; Mem. Torrey Bot. Club **18:** 113-331. 1932; N. Amer. Fl., ser. 2, **4:** 1-40. 1965), are the definitive treatments for this genus, although his narrow species concepts and tendency to over-split the taxa must be taken into account. Some would recognize a segregate family, the Cuscutaceae, for the genus; we prefer to include it with the Convolvulaceae.

Key to the Species

1. Capsule not opening circumscissily, the greater part exposed at maturity.
    2. Flowers wider than long, the sepal lobes rounded, overlapping at base.... .... *C. campestris*
    2. Flowers longer than wide, the sepal lobes acute, not overlapping......... .... *C. indecora*
1. Capsule opening circumscissily, the greater part covered by calyx at maturity.
    3. Stems coarse, growing mostly on shrubs; perianth lobes much shorter than tubes.
        4. Flowers 3-4 mm long; capsules usually 2-seeded.......... *C. globulosa*
        4. Flowers 2 mm long; capsules usually 1-seeded.......... *C. americana*
    3. Stems slender, growing mostly on herbs; perianth lobes equal to, or longer than, tubes.

5. Calyx and corolla lobes with irregular margins, rounded, with curved mucro at apex . . . . *C. boldinghii*
5. Calyx and corolla lobes entire, acute . . . . *C. umbellata*

Cuscuta americana L., Sp. Pl. **1:** 124. 1753.

Type: Holotype at LINN (possibly LINN 170.5, 170.6, or 170.8), annotated by Linnaeus; vide Yuncker, Mem. Torrey Bot. Club **18**(2): 221. 1932.

Stems medium to coarse. Flowers sessile to subsessile, congested, ca. 2 mm long, drying straw-brown to black; calyx ca. as long as corolla tube, sepals joined to form deep, campanulate tube lobed only near top, lobes overlapping below, rounded at apex; corolla lobes shorter than tube, erect, obtuse; filaments very short; stigmas capitate, exserted. Capsules ovoid-globose, circumscissile, bearing persistent, withered corolla as crown; seed usually 1.

GENERAL DISTRIBUTION: Widespread in the Western hemisphere, parasitizing a variety of woody host species.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin, St. Barts, Antigua, Saba, St. Eustatius, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados.

COMMON NAMES: Yellow dod (or dodder), teigne, vermicelle, love vine, corde à violon, corde de violon, herbe z'amitié, herbe à z'amourelle, herbe à z'amourette, liane à cordon, liane sans fin.

Cuscuta boldinghii Urban, Repert. Spec. Nov. Regni Veg. **16:** 38. 1919.

Type: Bonaire, *Boldingh 7379* (n.v.).
Syn.: *Cuscuta partita* Choisy sensu Boldingh, Fl. Ned. W. Ind. Eil. 326. 1913; Fl. Dutch W. Ind. Is. **2:** 87. 1914.

Stems slender, bearing very compact, isolated clusters of sessile or subsessile flowers, turning somewhat black on drying. Flowers 3-4 mm long; calyx equal to or longer than corolla tube, sepals united only at base, apex rounded with apical or subapical, hornlike mucro, margin denticulate; corolla lobes upright or slightly spreading, about equal to corolla tube in length, petals similar to sepals; styles sturdy, longer than ovary, stigmas globose. Capsules circumscissile, bearing withered corolla on top.

GENERAL DISTRIBUTION: Mexico, Central America, the West Indies.

DISTRIBUTION IN LESSER ANTILLES: Grenada!.

NOTE: Urban (1919) reports that this species parasitizes *Borreria* and members of the Malvaceae and Leguminosae.

Cuscuta campestris Yuncker, Mem. Torrey Bot. Club **18:** 138. 1932.

Type: Texas, *Lindheimer 126* (holotype, MO).
Syn.: *Cuscuta arvensis* Engelm. var. *calycina* Engelm., Trans. Acad. Sci. St. Louis **1:** 495. 1859. (Type: Several syntypes cited including *Lindheimer 126* and *Mad. Richard* 114, the latter from Martinique (FI?, G-BOIS).)

Stems slender. Flowers pedicellate, borne in numerous small clusters, 2-3 mm long, wider than long; calyx as long as corolla tube, lobes rounded, overlapping at base; corolla lobes reflexed, acute, ca. as long as tube or longer, sometimes verrucose on outside; stamens and fimbriate scales pointing inward toward styles; intrastylar opening conspicuous. Capsules not enclosed by persistent calyx and corolla.

GENERAL DISTRIBUTION: Cosmopolitan.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Marie Galante!, Martinique!.

COMMON NAMES: Liane z'amitié, liane vermicelle.

NOTE: This species of *Cuscuta* preferentially parasitizes *Polygonum* species.

Cuscuta globulosa Benth., Bot. Voy. Sulphur. 138. 1845, non Boissier, 1856. FIGURE 67.

Type: Mexico, Guerrero, Acapulco, ?*Bentham s.n.* (holotype, a fragment in the Engelmann herbarium, MO).

Stems coarse. Flowers 3-4 mm long, subsessile to shortly pedicellate, drying straw-yellow; calyx ca. as long as corolla tube, sepals joined to form deep, campanulate tube, lobed at apex, the lobes overlapping at base, rounded at apex; corolla lobes erect, obtuse, shorter than corolla tube; filaments very short; stigmas capitate, exserted. Capsules depressed-globose, circumscissile, bearing persistent, withered corolla as crown; seeds usually 2.

GENERAL DISTRIBUTION: Mexico, the West Indies.

DISTRIBUTION IN LESSER ANTILLES: St. Barts (*fide* Questel), Antigua!, Montserrat!, Martinique, St. Vincent!, Grenada!.

NOTES: *Cuscuta globulosa* is very closely related to *C. americana.* When dry, the lighter color of its larger and fewer flowers is in marked contrast to those of *C. americana*, as is the shape of the capsule, which varies with the number of seeds. However, intermediate forms are to be found that make the distinction at the species level questionable. The response of these species and intermediate forms to host plants might prove to be a very rewarding study.

Both species are robust and occasionally produce straight flowering shoots that do not twine and bear no haustoria.

Cuscuta indecora Choisy, Mém. Soc. Phys. Genève **9:** 278, *pl. 3, fig. 3.* 1842.

Type: "hab. Mexicum ad Matamoros," *Berlandier 2285* (holotype, G-DC, n.v. (IDC 2562. 1660: I. 2, photo!); isotype, MO, n.v.).

Stems slender. Inflorescences papillose, usually elongate, with several flowers; pedicels longer than flowers; calyx shorter than corolla tube, lobes acute, not overlapping at base; corolla ca. 3 mm long, fleshy, lobes blunt or acute, outspread and with incurved tips in mature flowers. Capsules globose, ca. 4 mm in diameter.

GENERAL DISTRIBUTION: Tropical America.

DISTRIBUTION IN LESSER ANTILLES: Barbados.

NOTE: The type specimen was reported to be parasitic on *Artemisia*.

Cuscuta umbellata Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **3:** 121 (ed. quarto), 95 (ed. folio). 1819.

Type: "Crescit in Novae Hispaniae, inter Queretaro et Salamanca, alt. 900 hex. Floret Septembri." *Humboldt & Bonpland s.n.* (P, n.v. (IDC 6209. **68:** III. 6, photo!); fragment, MO).

Stems very slender. Flowers ca. 2 mm long, pedicellate; calyx lobes acute, reaching to top of corolla tube or longer; corolla lobes acute, ca. as long as corolla tube or longer, reflexed, exposing stamens and pistils; styles longer than ovary. Capsules depressed-globose, very fragile, somewhat exposed.

GENERAL DISTRIBUTION: Tropical America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba (*fide* Boldingh), Guadeloupe!.

NOTES: Boldingh (Fl. Dutch W. Ind. Is. vol. 1, 1909; vol. 2, 1914) reported this species from Saba, but Yuncker (1932, p. 237) did not mention having examined any West Indian specimens except a Wullschlägel collection (*352* in hb. Martius) from Antigua, which he listed under *Cuscuta umbellata* var. *desertorum* Engelm. (Trans. Acad. Sci. St. Louis **1:** 488. 1859) as Engelmann had done, observing that the specimen had immature capsules. According to Yuncker, the specimen has capsules that are more exposed and glandular and flowers that are broader than is typical for this variety. This raises doubts whether Wullschlägel's collection was in fact *C. campestris.*

It seems, therefore, that the distribution of *Cuscuta umbellata* in the Lesser Antilles is little known; the only recent collection seen is *Sastre, Sastre, & Fournet 2814* (A), which extends the range of this species to Guadeloupe. The species does occur throughout the Greater Antilles.

Judging from material studied, *Cuscuta umbellata* is often very floriferous in the United States and Mexico, whereas West Indian material is much more vegetative, its relatively few flowers and fruits (with extremely thin calyx, corolla, and capsules) being obscured by its own stems and the foliage of the host plant. Members of the Amaranthaceae and Portulacaceae are the most frequent host plants for the species throughout its range. A striking resemblance between *C. umbellata* and the Argentinian *C. membranacea* Yuncker, in addition to their similar hosts, suggests that the latter species belongs here, the circumscission of its capsules being a factor of age. In this regard it is interesting to note that Austin (Fl. Venezuela **7**(3): 225. 1982) reports the capsules of Venezuelan *C. umbellata* are "tardíamente circuncísiles."

EVOLVULUS L.

Evolvulus L., Sp. Pl. ed. 2, **1:** 391. 1762.

Herbs, undershrubs, or shrubs, prostrate to erect, more or less hairy with appressed trichomes essentially malpighiaceous, patent hairs simple. Leaves small, simple, entire. Flowers axillary or terminal; bracts 2, at base of pedicel; sepals 5, free, equal or subequal; corolla rotate, funnelform, or salverform, small, subentire or 5-lobed, usually blue or white, middle of each lobe hairy on outside; stamens 5, filaments filiform, anthers ovate to linear, pollen non-spinulose, aggrecolpate; ovary glabrous to occasionally pilose, 1- or 2-celled, ovules 4, styles 2, each bifid, stigmas long, filiform. Capsules globose or ovoid, 4-valved; seeds 1 to 4, smooth or verruculose, glabrous.

LECTOTYPE: *Evolvulus nummularius* (L.) L. (vide N. L. Britton & A. Brown, Ill. Fl. N. US. ed. 2, **3:** 42. 1913).

A genus of nearly 100 species, largely American in distribution, with a few species now pantropical through introduction. The last revision of the genus was that of van Ooststroom (Monogr. *Evolvulus*, 1934).

KEY TO THE SPECIES

1. Plants prostrate; leaves oblong to subrotund, base sometimes cordate or subcordate.
    2. Stems rooting at nodes; hairs simple, not appressed; flowers sessile, bracts borne in leaf axil; corolla distinctly lobed .... *E. nummularius*
    2. Stems anchored by taproot, only occasionally rooting at nodes; hairs appressed; flowers pedicellate and pedunculate; corolla entire ..... *E. convolvuloides*
1. Plants usually ascending or upright; leaves ovate, elliptic, or linear, base never cordate or subcordate.
    3. Plants not sericeous.
        4. Leaves ovate; flowers ca. 1 cm across; cultivated .... *E. tenuis* subsp. *longifolius*
        4. Leaves elliptic or linear; flowers less than 1 cm across.
            5. Leaves elliptic; 2 or 3 times as long as wide; stems villose .... *E. alsinoides* var. *grisebachianus*
            5. Leaves linear or elliptic, much longer than wide; stems strigose .... *E. filipes*
    3. Plants sericeous, at least on undersurface of leaves.
        6. Flowers pedunculate and pedicellate .... *E. antillanus*
        6. Flowers without peduncles .... *E. sericeus*

Evolvulus alsinoides (L.) L. var. **grisebachianus** Meissner *in* C. Martius, Fl. Bras. **7:** 344. 1869.

Syntypes: Trinidad, *Lockhart s.n.* (K) & *Crueger s.n.* (K); Mexico, *Karwinski s.n.*; Brazil, pr. S. Isabel, ad fl. Rio Negro, *Schomburgk 1012*; Brazil, in ripa fl. Orenoco, pr. Borja, *Bonpland s.n.*

Suberect to trailing herb, branching at ground level; stems villose. Leaves short-petiolate; blades elliptic, to 15 × 8 mm, apex mucronate or abruptly acute, hairs appressed, often denser on lower surface. Inflorescences with peduncles filiform, longer than subtending leaves, bearing 1 (to several) flowers. Flowers with pedicels 3-5 mm long; sepals ovate-lanceolate, 2-3 mm long, acuminate, villous; corolla rotate, lobed, ca. 5 mm wide, blue or lavender. Capsules ca. 3 mm across, unilocular with fragmentary septum, straw-colored; seeds 4.

GENERAL DISTRIBUTION: Tropical America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Guadeloupe!, Barbados.

Evolvulus antillanus D. Powell, J. Arnold Arbor. **60:** 225. 1979.
FIGURE 68.

Type: Antigua, near English Harbor, *Rose, Fitch, & Russell 3356* (holotype, US).
Syn.: *Evolvulus argyreus* Choisy, Mém. Soc. Phys. Genève **8:** 75. 1837, sensu Ooststr., Monogr. *Evolvulus* 80. 1934, pro parte.

Prostrate or suberect herb; stems few to many, sericeous to glabrescent with age. Leaves with blades narrowly oblong, elliptic, or broadly elliptic, 5-12 × ca. 2 mm, midrib prominent on lower surface, fulvous- to gray-sericeous, sometimes glabrescent on upper surface in larger plants. Flowers usually solitary; peduncle shorter or longer than subtending leaf; pedicels 3-7 mm long; sepals sericeous, ca. 3 mm long; corolla about twice as long as calyx, white or blue, tube with 5 short, triangular cusps between bases of filaments, alternating with them, projecting upward and inward (sometimes joining) over the ovary; ovary 1- or incompletely 2-celled. Capsules globose; seeds 4 or fewer.

GENERAL DISTRIBUTION: Lesser and Dutch Antilles, and the northern coast of Venezuela.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Barbuda!, Antigua!, Guadeloupe!, Martinique!, St. Lucia!.

COMMON NAMES: Lin, lin bâtard.

Evolvulus convolvuloides (Willd. ex Schultes) Stearn, Taxon **21:** 649. 1972.

Basionym: *Nama convolvuloides* Willd. ex Schultes, Syst. Veg. **6:** 189. 1820.
Type: Venezuela, Cumana, *Humboldt & Bonpland ?24* (holotype, B-W #5451; IDC 7440. **373:** III. 7, photo!).
Syn.: *Evolvulus mucronatus* Sw. ex Wikström, Kongl. Vetensk. Acad. Handl. 1827: 61. 1827. (Type: Guadeloupe, *Forström s.n.* (S).)
?*Evolvulus glabriusculus* Choisy, Mém. Soc. Phys. Genève **8:** 78. 1837. (Type: hab. "Portorico, St. Thomas, St. Domingue, Jamaica, ad Gallipagos, Caracas, St. Vincent, Peruvia, etc."; not designated.)

Prostrate to trailing herb, arising from taproot, rarely rooting at nodes, with appressed hairs or sometimes glabrescent. Leaves short-petiolate; blades subrotund, oblong to obovate, 0.5-2.5 × 0.3-1.6 cm, base rounded or subcordate, apex rounded or retuse (occasionally somewhat acute), mucronate, midrib and primary veins often prominent, upper surface glabrous or often with few appressed hairs, lower surface with appressed hairs. Inflorescences usually 1-flowered with peduncles shorter to longer than subtending leaves; bracts linear, 1-3 mm long, persistent. Flowers with pedicels 2-4 mm long; sepals lanceolate, 2-4 mm long, apex acute to acuminate, pilose to glabrous; corolla rotate, 8-10 mm in diameter, pale blue or white, pilose to glabrous on outside, sometimes bearing 5 pairs of narrow, basal flaps within, each pair converging to base of a stamen; stamens attached ca. 1/6 height of corolla; ovary 1-celled. Capsules ovoid to globose, apex slightly pointed; seeds 4 or less.

GENERAL DISTRIBUTION: Tropical America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, St. Kitts!, Guadeloupe!, La Désirade!, Marie Galante!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAME: Teigne.

Evolvulus filipes C. Martius, Flora (Beiblätter, band 2) 100. 1841.

Type: Brazil, Bahia, Rio S. Francisco near Joazeiro, *Martius s.n.* (BR, M).
Syn.: *Evolvulus linifolius* sensu Duss, Ann. Inst. Bot.-Géol. Colon. Marseille. **3:** 442. 1897, non L. (1762).

Semi-erect to decumbent herb, sparsely substrigose with appressed hairs; main stem frequently much branched, arising from taproot. Leaves short-petiolate to sessile; blades lanceolate to linear, to 25 × 5 mm, becoming smaller distally, midrib prominent beneath, very sparsely strigose to glabrous above, sparsely strigose to glabrescent beneath, backward arm of each hair (on stem and leaf) very short or missing. Inflorescences sometimes branched, with flower(s) 1 to several per peduncle; peduncles filiform, usually 2-2.5 cm long and almost upright, considerably longer than leaves, pilose. Flowers with pedicels ca. as long as calyx; sepals ovate, ca. 2 mm long, apex acute, green in flower, slightly accrescent and turning brown in fruit, sparsely pilose and ciliate; corolla very small, slightly longer than calyx, blue; ovary 2-celled. Capsules globose, 2 mm in diameter; seeds 4.

GENERAL DISTRIBUTION: Mexico to South America, Jamaica, Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, Grenada!.

COMMON NAME: Herbe grise.

Evolvulus nummularius (L.) L., Sp. Pl. ed. 2, **1:** 391. 1762.

Basionym: *Convolvulus nummularius* L., Sp. Pl. **1:** 157. 1753.
Type: Jamaica, Hb. Sloane, **3:** fol. 19 (BM); vide W. T. Stearn, Taxon **21:** 649. 1972.

Prostrate herb rooting at nodes; stems pilose with patent, crooked hairs. Leaves with petioles channeled above; blades oblong-elliptic to subrotund, 5-15 × 4-14 mm, base rounded to cordate, apex rounded to retuse, usually with pellucid dots, midrib and primary veins (3 to 5 pairs) prominent beneath, usually glabrous above, hairs more numerous on midrib and veins beneath. Flowers solitary, lacking peduncle, sometimes crowded on short flowering branches; bracts 2 in leaf axil at base of pedicel; pedicels 2-4 mm long, lengthening and becoming reflexed in fruit; sepals ovate to oblong, ca. 3 mm long, equal, apex acute, green and often tinged with purple, with pellucid dots and conspicuous midrib; corolla distinctly 5-lobed, 8-10 mm in diameter, white, occasionally pale violet, sparsely pilose on outer surface of interplicae; ovary 1-celled. Capsules conical to globose, slightly beaked, 4-valved but splitting irregularly, brown or purple; seeds 1 or 2, shape of fruit varying with number of seeds.

GENERAL DISTRIBUTION: Mexico to northern Argentina, West Indies, tropical Africa, Madagascar, India.

DISTRIBUTION IN LESSER ANTILLES: St. Barts, Antigua!, Guadeloupe!, La Désirade, Marie Galante, Les Saintes, Dominica, Martinique!, St. Lucia!, the Grenadines!, Grenada!, Barbados.

COMMON NAMES: Véronique, petite véronique, véronique bord de mer, teigne, ti teigne.

Evolvulus sericeus Sw., Prodr. 55. 1788; Fl. Ind. Occid. **1:** 576. 1797 (as "Evolvolus").

Type: Jamaica, *Swartz s.n.* (M, S).
Syn.: *Convolvulus proliferus* M. Vahl, Eclog. Amer. **1:** 18. 1797. (Type: West Indies, *von Rohr 30* (holotype, C), vide Ooststr., Monogr. *Evolvulus* 127, 134. 1934.)

Low wiry herb; stems few or several, upright or ascending, 10-30 cm long, sericeous. Leaves with blades linear or lanceolate, 5-30 × 3-8 mm, apex acute, midrib depressed above and prominent beneath, with one pair of primary veins in wider leaves, usually glabrous above, sericeous beneath. Flowers solitary or occasionally few; peduncles lacking; bracts in leaf axil; pedicels short; sepals ovate, 3-5 mm long, equal, apex acuminate, usually with spreading tips, ciliate, sericeous without and sometimes distally within; corolla rotate or wide funnelform, 7-12 mm wide, white. Capsules globose, bilocular; seeds 4.

GENERAL DISTRIBUTION: Southern United States to Argentina, West Indies.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, St. Eustatius!, Guadeloupe!, La Désirade, Dominica!.

COMMON NAME: Herbe argentée.

Evolvulus tenuis C. Martius ex Choisy subsp. **longifolius** (Choisy) Ooststr., Monogr. *Evolvulus* 61. 1934.

Basionym: *Evolvulus longifolius* Choisy, Mém. Soc. Phys. Genéve **8:** 81. 1837.
Type: Venezuela, Federal District, near Caracas, *Vargas 94* (G-DC; IDC 2562. 1657: I. 5, photo!).

Erect or ascending herbs or suffruticose plants, with variable indumentum, sparse to dense. Leaves with blades lanceolate, broadest below middle, 20-45 × 8-16 mm, base rounded, apex attenuate, acute, or obtuse, midrib and lateral nerves generally prominent beneath, variably pubescent with soft, grey, appressed indumentum. Flowers 1 to several in leaf axils; peduncles filiform, shorter than or exceeding leaves; pedicels generally longer than sepals, to 8(-12) mm long; bracteoles subulate, ca. 1.5 mm long, often approximate at top of peduncle; sepals lanceolate, 2.5-3 mm long, apex acute or acuminate; corolla rotate, limb slightly lobed, ca. 10 mm in diameter, blue or white; filaments ca. twice as long as anthers; ovary globose, glabrous.

General distribution: West Indies, Colombia, Venezuela, Bolivia.

Distribution in Lesser Antilles: St. Kitts, Guadeloupe (vide Ooststroom).

Common name: Lin.

Note: Cultivated; van Ooststroom cited a specimen from St. Kitts under this name that was doubtless the same one recorded by Grisebach as *E. villosus.*

IPOMOEA L.

Ipomoea L., Sp. Pl. **1:** 159. 1753; Gen. Pl. ed. 5. 76. 1754.

Prostrate or twining plants, occasionally erect shrubs or trees, glabrous or with hairs. Leaves simple, lobed, or palmately or pinnately compound. Inflorescences axillary, 1- to many-flowered; bracts various, usually small and caducous. Flowers with calyx variable, persistent; corolla funnelform, campanulate, or salverform, star well-marked, showy, red, blue, purple, pink, cream, or white (rarely yellow), often with dark center; stamens and pistil included or exserted; pollen spheroidal, pantoporate, spinose; ovary 2- to 4-celled, style 1, stigma capitate, lobed or divided. Fruit a valvate capsule; seeds 4 to 6 or fewer, brown or black, hairy or smooth.

Lectotype: *Ipomoea pes-tigridis* L. (vide House, Ann. New York Acad. Sci. **18:** 181. 1908).

The largest genus in the family, with perhaps 500 species in the tropics worldwide. Usually heliophytic plants, often twiners, climbers, or lianas, less likely to be prostrate or erect. The scarcity of yellow flowers in the genus contrasts with the genera *Operculina* and *Merremia*, where yellow corollas occur frequently. Many species are cultivated for their ornamental flowers; two, *Ipomoea aquatica* and *I. batatas*, are grown for food. D. Austin (Ann. Missouri Bot. Gard. **64:** 330-339. 1977) and V. La Valva & S. Sabato (Taxon **32:** 110-114. 1983) have made nomenclatural transfers pertinent to Lesser Antillean taxa. D. Austin (Bull. Torrey Bot. Club **105:** 114-129. 1978) has also discussed the members of *Ipomoea* section *Batatas*, several of which occur in the Lesser Antilles.

KEY TO THE SPECIES

1. Upright shrub with showy, pink-lilac flowers; cultivated .... *I. carnea* subsp. *fistulosa*
1. Creeping or twining plants.
   2. Leaves pinnately many-lobed, appearing compound; sometimes cultivated .... *I. quamoclit*
   2. Leaves not pinnately many-lobed.
      3. Leaves < 2 cm long, produced with flowers on short shoots .... *I. eggersii*
      3. Leaves > 2 cm long; no short shoots produced with flowers.
         4. Leaves palmately lobed or palmately compound.
            5. Leaves of axillary buds developed to look like stipules .... *I. cairica*
            5. Leaves of axillary buds not developed.
               6. Leaves palmately compound.
                  7. Leaflets often lobed; peduncle filiform, usually spiraling; corolla lilac, ca. 2 cm long .... *I. wrightii*
                  7. Leaflets entire; peduncles thick, straight; corolla dark red, 4-5 cm long; cultivated .... *I. horsfalliae*
               6. Leaves palmately lobed.
                  8. Climbing plant; buds and sepals rounded ... *I. mauritiana*
                  8. Creeping plants; buds pointed, sepals acuminate; cultivated .... *I. batatas*
         4. Leaves simple or lobed, but not palmately so.
            9. Leaf apices blunt, rounded, retuse, or bilobed.
               10. Leaves oblanceolate or obtriangular .... *I. sphenophylla*
               10. Leaves otherwise.
                   11. Leaves no more than 1.5 times as long as broad.
                       12. Leaves emarginate to bilobed, base cuneate or truncate; fruits ca. 1.5 cm long .... *I. pes-caprae* subsp. *brasiliensis*
                       12. Leaves reniform to cordate; fruit < 1 cm long .... *I. asarifolia*
                   11. Leaves much longer than wide, base truncate to cuneate .... *I. imperati*
            9. Leaf apices acute to acuminate.
               13. Plants prostrate, frequently rooting from the stem.
                   14. Leaves 1 to 5 times as long as wide; sepals rounded to acute; aquatic .... *I. aquatica*
                   14. Leaves usually wider than long; sepals acuminate; producing ground tubers; cultivated .... *I. batatas*
               13. Plants climbing or creeping, not usually rooting along the stem.
                   15. Plants with conspicuous bracts and winged sepals .... *I. setifera*
                   15. Plants otherwise.

16. Sepals attenuate-lanceolate to apiculate, the elongate tip ≥ length of sepal.
    17. Sepals ≤ 6 mm long; flowers red .... *I. hederifolia*
    17. Sepals ≥ 8 mm long; flowers white, blue or lilac.
        18. Flowers blue, diurnal; stems terete, smooth.

19. Sepals all lanceolate-filiform, base hirsute, apex upright and straight .... *I. nil*

19. Outer sepals ovate-lanceolate, inner linear-filiform, ± glabrous, apex often curling...................... *I. indica* var. *acuminata*

18. Flowers white or lilac, nocturnal; stems usually muricate or bearing recurved, fleshy prickles.

20. 3 outer sepals with prolonged tips; flowers white, tube ≥ 8 cm long .... *I. alba*

20. All sepals with elongate tips; flowers lilac, tube < 8 cm long... .... *I. turbinata*

16. Sepals sometimes acuminate but not extending into elongate tips.

21. Sepals rounded or obtuse at apex.

22. Sepals shortly mucronate; flowers usually solitary, white, nocturnal .... *I. violacea*

22. Sepals not mucronate; flowers usually in large, lax inflorescences, red, pink, or violet, diurnal.

23. Sepals subequal; corolla limb divided to the tube.... *I. repanda*

23. Sepals distinctly unequal; corolla limb entire.

24. Outer sepals larger than inner.............. *I. phyllomega*

24. Outer sepals smaller than inner............ *I. walpersiana*

21. Sepals acute or acuminate.

25. Sepals ca. 1 cm long; flowers pale lilac................. *I. tiliacea*

25. Sepals < 1 cm long.

26. Sepals with whitish margins; flowers ≥ 5 cm long, blue........ .... *I. tricolor*

26. Sepals lacking colored margins; flowers < 5 cm long, not blue.

27. Sepals ciliate and/or hirsute below; flowers pink-purple.... .... *I. triloba*

27. Sepals glabrous or pubescent; flowers white or cream with dark center.................................... *I. obscura*

Ipomoea alba L., Sp. Pl. **1:** 161. 1753.

Lectotype: India, Rheede, Hort. Malab. **11:** *t. 50, figs. 1 & 2.* 1692; chosen by Gunn, Brittonia **24:** 151. 1972.

Syn.: *Convolvulus aculeatus* L., Sp. Pl. **1:** 155. 1753. (Type: Tropical America, collector unknown, Herbarium Sloane **99:** 213 (lectotype, BM-SL); vide Verdcourt, Fl. Trop. E. Africa 130. 1963).

Convolvulus latiflorus Desr. *in* Lam., Encycl. **3:** 561. 1792. (Syntypes: Santo Domingo, ?*Mazure s.n.* (P-JU #6782; IDC 6206. 496: I. 1, photo!) & Martinique, collector unknown, specimen not found).

Calonyction aculeatum (L.) House, Bull. Torrey Bot. Club **31:** 509. 1904.

Glabrous creeper; stems often bearing small, recurved prickles. Leaves with petioles to 20 cm long; blades large, with midrib to 16 cm long, base deeply cordate, sagittate to auriculate, apex acuminate, margin entire to deeply 3-lobed, membranous. Inflorescences 1- to few-flowered with peduncles as long as petioles or shorter. Flowers with pedicels 1-2 cm long, thickening and becoming distinctly angular in fruit; sepals keeled, outer 3 smaller but each with very long tip, inner 2 rounded and mucronate; corolla tube to 10 cm long, very narrow, green, limb ca. as wide as length of tube, white; stamens and style exserted. Capsules conical and beaked, 2-celled, with sepals turning black as 4 horny valves dehisce; seeds 4, tan, dark brown, or black, glabrous, smooth.

GENERAL DISTRIBUTION: This tropical American plant, usually growing in swampy situations or coastal areas, has become naturalized throughout the tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Barts (cultivated), Guadeloupe, Dominica!, Martinique, St. Vincent, the Grenadines.

COMMON NAMES: Belle de nuit, fleur de nuit, liane blanche bord de mer, liane douce.

NOTES: This species is cultivated as the ''Moonflower'' throughout the world. The large, white, nocturnal flowers with a sweet fragrance are distinctive. It may be distinguished from the similar *Ipomoea violacea* by the awned sepal tips and glabrous seeds; the latter species has apically rounded, mucronate sepals and woolly seeds. The morphological similarity between these taxa is a case of convergence on the same pollination syndrome and adaptation for parallel habitats, as discussed by Gunn (Brittonia **24:** 150-168. 1972). Once thought to belong to the same section (*Calonyction*) of the genus *Ipomoea*, they are now recognized as being more distantly related.

Ipomoea aquatica Forsskal, Fl. Aegypt.-Arab. 44. 1775.

Type: Yemen, Zepid, *Forsskal s.n.* (holotype, C (IDC 2200. **57:** I. 3, photo!); isotype, BM).

Herb trailing in mud or floating in fresh or brackish water; stems striate, thick, hollow or spongy, glabrous, sometimes rooting at nodes. Leaves with petioles mostly longer than blades; blades to 15 cm long, typically much narrower than long, base sagittate, hastate, or cordate, apex usually acuminate, mucronate, membranous. Inflorescences 1- to few-flowered; bracts very small. Flowers with pedicels sometimes considerably longer than peduncles; sepals ovate, 7-8 mm long, ± equal, apex obtuse to acute; corolla funnelform, ca. 5 cm long, pale pink or lilac with darker center (white-flowered in some Asian material). Capsules globose, ca. 1 cm wide, slightly pointed at apex, 2-celled; seeds 4 or fewer, silky (those examined immature, without hairs).

GENERAL DISTRIBUTION: Native of the Far Eastern tropics but distributed throughout the tropics. Sometimes cultivated as a vegetable as in Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!.

Ipomoea asarifolia (Desr.) Roemer & Schultes, Syst. Veg. **4:** 251. 1819.

Basionym: *Convolvulus asarifolius* Desr. *in* Lam., Encycl. **3:** 562. 1792.
Type: Senegal, *Roussillon s.n.* (holotype, P-LA; IDC 6207. **462:** II. 3, photo!).

Fleshy, creeping herb (dried stems hollow) of seashores and low-lying coastal areas, sometimes with upright branches. Leaves with petioles grooved adaxially, about as long as blades, with 2 glands at distal end; blades reniform to cordate, 4-7(-10) cm long and wide. Inflorescences with (1 to) several flowers; peduncles usually as long as petioles. Flowers with sepals oblong, unequal, outer 2 thicker and ca. half as long as membranous inner 3 (to 14 mm long), apex blunt, mucronate; corolla funnelform, 4-7 cm long, rose-purple. Capsules globose, 1 cm across, beaked, 2-celled; seeds 4, brown, smooth (immature material seen).

GENERAL DISTRIBUTION: Tropical America, Africa, Asia, and Malaysia.

DISTRIBUTION IN LESSER ANTILLES: "Danish and French islands" (vide Grisebach), Martinique, St. Lucia!.

Ipomoea batàtas (L.) Lam., Tabl. Encycl. **1:** 465. 1793.

Basionym: *Convolvulus batatas* L., Sp. Pl. **1:** 154. 1753.
Lectotype: India, LINN 218.12; chosen by Verdcourt, Fl. Trop. E. Africa 114. 1963.

Prostrate, ascending, or twining perennial herbs forming tuberous roots; stems rooting at nodes, glabrous or pubescent. Leaves variable, ovate to orbicular in outline, 5-10 cm long, base cordate to truncate, apex obtuse, acute, or acuminate, margin entire or angular, dentate to deeply 5- or 7-lobed, glabrous or pubescent. Inflorescences axillary, cymose or occasionally subumbellate, few- to several-flowered, or flowers solitary; peduncles shorter or longer than subtending petiole, stout and angular to slender and terete. Flowers with pedicels short; sepals subequal to unequal, outer shorter, oblong to elliptic-oblong, 4-9 mm long, inner elliptic-oblong to ovate-oblong, 5-12 mm long, apices acute to obtuse, mucronulate-caudate, with 3 to 5 median veins, subcoriaceous, ciliate, glabrous to densely pubescent; corolla campanulate-funnelform, 3-5(-7) cm long, pink, lavender, or purplish (rarely white) with darker throat, limb entire to toothed or obtusely lobed, glabrous; stamens included, filaments glabrous except at base, anthers white to purplish; ovary usually pubescent, with yellow-orange nectary. Capsules rarely produced, ovoid to subglobose depending on number of seeds formed within, 5-10 mm in diameter, 2-celled, 4-valved, glabrous or pubescent; seeds 4 or less, subglobose, brown to black, glabrous.

GENERAL DISTRIBUTION: Tropics worldwide; introduced and sometimes escaped from cultivation.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, St. Lucia!.

COMMON NAMES: Patate douce, sweet potato.

NOTE: Locally cultivated as a food source throughout the Lesser Antilles. This species is highly variable in all aspects of its morphology, which reflects its long history as a cultivated crop plant and the existence of several ploidy levels. Austin (Bull. Torrey Bot. Club **105:** 114-129. 1978) has discussed this taxon and the other members of *Ipomoea* section *Batatas* and provided a key for their identification.

Ipomoea cairica (L.) Sweet, Hort. Brit. 287. 1826.

Basionym: *Convolvulus cairicus* L., Syst. Nat. ed. 10, **2:** 922. 1759.
Lectotype: Illustration of *Convolvulus aegyptius* Vesling *in* Alpino, Pl. Aegypt. 75, fig. unnumbered. 1638; chosen by Verdcourt, Fl. Trop. E. Africa 125. 1963.
Syn.: *Ipomoea bouvetti* Duchass. & Walp., Linnaea **23:** 752. 1850. (Type: In insula Guadeloupe, *Duchassaing s.n.* (not located).)

Perennial climber or creeper; stems becoming straw-colored and warty, later wrinkled. Leaves with petioles slender, 1-6 cm long; blades palmately compound or nearly so, leaflets 5, lower 2 sometimes 2-lobed, middle one sometimes 3-lobed; leaflets and lobes ovate or ovate-lanceolate, base attenuate, apex acute to rounded, mucronate; small leaves on axillary shoots appearing as stipules. Inflorescences 1- to several-flowered; peduncles usually short; bracts minute. Flowers with sepals subequal or outer ones shorter, 5-8 mm long, apex rounded, margin scarious; corolla funnelform, to 7 cm long, lilac with purple tube. Capsules ca. 1 cm in diameter, 2-celled, 4-valved, brown, smooth; seeds 4 or fewer, dark brown, woolly, with long, light, silk hair on margin.

GENERAL DISTRIBUTION: Africa, but widely cultivated and escaped throughout the tropics.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, St. Lucia!, Grenada, Barbados!.

COMMON NAME: Liane à tonnelle.

NOTE: West Indian material never seems to have the tomentose leaf axils of African material. In addition, West Indian specimens have fewer flowers per inflorescence and rarely, if ever, set fruit. Sometimes cultivated in the Lesser Antilles.

Ipomoea carnea Jacq. subsp. **fistulosa** (C. Martius ex Choisy) D. Austin, Taxon **26:** 237. 1977.

Basionym: *Ipomoea fistulosa* C. Martius ex Choisy *in* DC., Prodr. **9:** 349. 1845.
Type: Brazil, *Martius 2398* (lectotype, M); *Martius 567 & 569*, *Pohl 1341* (syntypes, M); vide Austin, loc. cit.

Erect shrubs; stems suffrutescent, sometimes twining at tips, fistulose, glabrous or minutely puberulent. Leaves lanceolate-ovate, 10-25 cm long, base truncate to shallowly cordate, apex long-acuminate, chartaceous to somewhat herbaceous, glabrous to puberulent on both surfaces. Inflorescences terminal on branch tips, cymose-paniculate, or flowers solitary. Flowers with sepals ± equal, suborbicular, 5-6 mm long, coriaceous, glabrous or puberulent; corolla funnelform, flaring from below middle of tube, 5-8 cm long, deep pink to rose-purple, with throat darker than limb, finely tomentose outside. Capsules ovoid to conical, 2 × 1.5 cm, 2-celled, 4-valved, brown, with ligneous septa, glabrous; seeds 4 or fewer, brown, covered with long, woolly trichomes.

GENERAL DISTRIBUTION: Widespread in neotropics, also in Hawaii; now pantropical through cultivation as an ornamental.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Eustatius, Guadeloupe, St. Lucia!.

COMMON NAMES: Ológi di anochi, petite campanule.

NOTE: *Ipomoea carnea* was reported as cultivated in the St. Vincent Botanic Garden (Guilding, 1825). This may have been the twining subspecies *carnea.*

Ipomoea eggersii (House) D. Austin, Ann. Missouri Bot. Gard. **64:** 335. 1979.
FIGURE 69.

Basionym: *Exogonium eggersii* House, Bull. Torrey Bot. Club **35:** 104. 1908.
Type: St. Thomas, Feb. 1887, *Eggers s.n.* (holotype, NY; isotypes, G, L).
Syn.: *Ipomoea arenaria* sensu Urban, Symb. Antill. **4:** 508. 1910, pro parte, non Roemer & Schultes (1819), nec (Choisy) Steudel (1841).
Ipomoea eggersiana sensu D. Powell, J. Arnold Arbor. **60:** 252. 1979, non Peter (1891, nomen nudum).

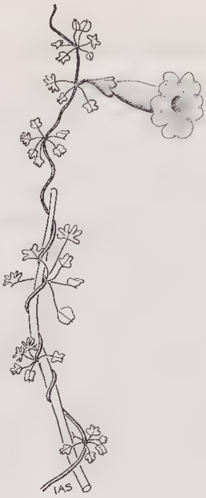
Slender trailing or twining vines, glabrous. Leaves 2 to several on short shoot at each node; blades very variable, from simple and ovate to 6-lobed, ≤ 1 cm long, base truncate and with 2 pronounced lobes, apex emarginate and mucronate. Flowers solitary; peduncles usually < 1 cm long; sepals subequal, 5-6 mm long, rounded; corolla campanulate to broadly funnelform, ca. 4 cm long, green on outside of tube, pink, lilac, or almost white on limb, conspicuous among the very small leaves. Capsules ovoid, 1 cm high, 4-valved, brown, inside of valves straw-colored and shiny, septum opaque; seeds 4, dark brown, with long, silky, brown hairs on end opposite hilum.

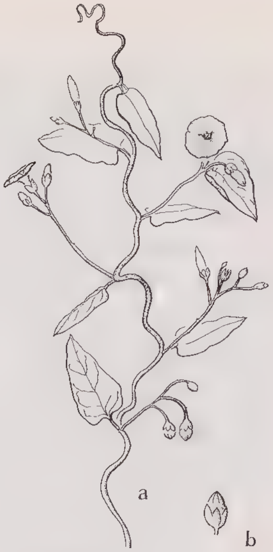
GENERAL DISTRIBUTION: Virgin Islands, Lesser Antilles.

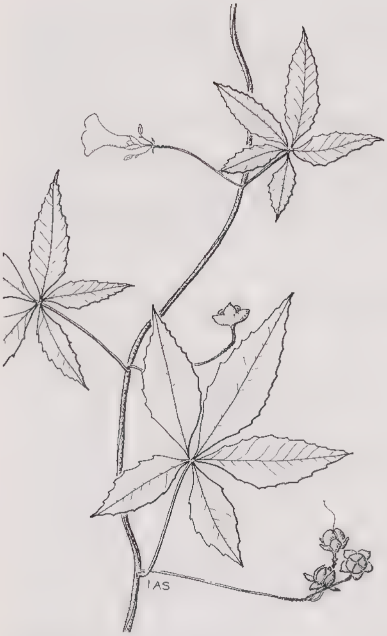
DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!.

COMMON NAME: Jumby potato.

NOTES: Powell (1979) applied *Ipomoea eggersiana* Peter to this taxon. In his paper on the disposition of epithets assigned to the genus *Exogonium*, Austin (1977) lists *I. eggersiana* as a synonym of *I. steudelii* Millsp., a new name for *I. arenaria* (Choisy) Steudel, which he regards as a taxon distinct from the Lesser Antillean *I. eggersii.* The latter has campanulate, usually white corollas with included stamens and pistil, whereas the Greater Antillean *I. steudelii* has salverform, reddish corollas with exserted stamens and pistil. The leaf shapes, short shoots, and fruit and seed characters of these two taxa are indistinguishable. Peter's terse description does not mention corolla color, and the presence of short shoots and reniform leaves, as well as the locality (St. Thomas), does not permit us to refer his epithet to either of these taxa unequivocally. Austin's assignment of Peter's epithet to the synonymy of *I. steudelii* is an educated guess under the circumstances.







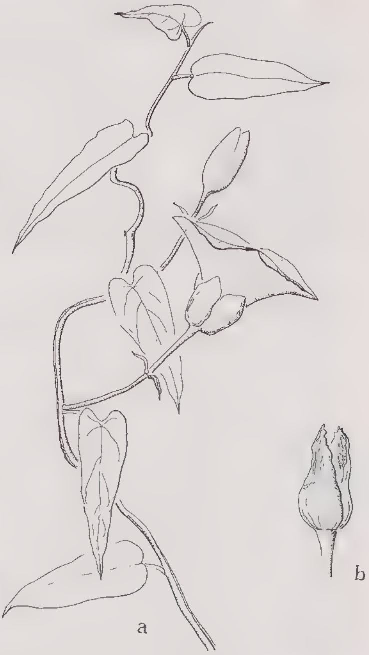


FIGURE 69 (upper left). *Ipomoea eggersii*: × 0.4. FIGURE 70 (upper right). *Jacquemontia solanifolia*: a, flowering shoot, × 0.4; b, fruit, × 0.4. FIGURE 71 (lower left). *Merremia quinquefolia*: × 0.4. FIGURE 72 (lower right). *Operculina hamiltonii*: a, flowering shoot, × 0.4; fruit, × 0.4.

Ipomoea hederifolia L., Syst. Nat. ed. 10, **2:** 925. 1759.

Lectotype: Plum., Pl. Amer. *t. 93, fig. 2.* 1756; vide O'Donell, Lilloa **29:** 48. 1959.
Syn.: ?*Ipomoea coccinea* sensu auct., non L. (1753).
Quamoclit coccinea sensu Urban, Symb. Antill. **4:** 514. 1910 (as applied to West Indian material), non (L.) Moench.

Herbaceous vine, glabrous or glabrescent. Leaves with petioles ± equal to length of blade; blades with midrib to 9 cm long, base cordate, apex acuminate, margin simple, angular in lower half and/or with 2 large basal lobes. Inflorescences few- to several-flowered dichasia; peduncles sturdier and much longer than subtending petioles. Flowers with pedicels 1-1.5 cm long, ribbed, thickening in fruit; sepals subequal, ca. 3 mm long, apex rounded with subulate appendage > in length to sepals; corolla salverform, tube ca. 3.5 cm long, usually slightly curved, scarlet; stamens and pistil exserted. Capsules globose, 6-8 mm high, short-beaked (1 mm long), 4-celled, 4-valved, septa transparent, persisting after seeds are shed; seeds 4, covered with short hairs.

GENERAL DISTRIBUTION: Tropical America; introduced into Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Barts, Antigua!, St. Kitts!, Montserrat, Guadeloupe!, Dominica!, Martinique, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados.

COMMON NAMES: Liseron hallier, liseron rouge.

NOTE: This species can be readily distinguished from the continental species *Ipomoea coccinea* L. by the capsule. In *I. coccinea* the beak is about three times as long, and the pedicel is reflexed instead of upright.

In March, 1989, J. E. Eckenwalder (Brittonia **41:** 75-79) published *Ipomoea praematura* as a new species related to *I. hederifolia*. The holotype collection is from cultivated plants grown in Canada from seed obtained on the island of Grenada. The new species differs in flowering at dusk, with ''bicolored pinkish corollas'' (''rosea et aurantiaca'' ex desc.); acute, ovoid capsules with persistent valves and slight differences in seed proportion and pubescence. The author lists additional subtle differences which in combination ''gives a distinctive appearance to herbarium specimens of *I. praematura*.'' Specimens are cited from The Grenadines, Trinidad, Guyana and Colombia. At press time the specimens cited had not been returned to permit further study.

Ipomoea horsfalliae Hook. f., Bot. Mag. **61:** *t. 3315.* 1834.

Type: Plant cultivated at Kew (holotype, K, n.v.).

Vines; stems glabrous, the older branches becoming lignescent, lenticellate, to 1.5 cm or more in diameter and to 10 m long. Leaves orbicular in outline, deeply palmately 3- to 5-lobed or divided, 5-20 cm long and wide, segments obovate to elliptic-oblong or ovate, median segment larger, lateral segments narrower, base cuneate to attenuate, apex mostly attenuate, margin entire or coarsely dentate to crenate. Inflorescences axillary corymbs or panicles, 8-30 cm long; peduncles stout. Flowers with sepals subequal or the outer slightly shorter, elliptic or ovate-elliptic, concave, 7-10 mm long, apex acute, green at base, purplish elsewhere, glabrous; corolla salverform, 4-5 cm long, limb 4-4.5 cm in diameter with 5 rounded lobes, crimson red, purple red, or pinkish purple; stamens exserted; ovary ovate. Capsules shortly ovate, 13-16 mm long, abruptly tapering into style, calyx slightly enlarged; seeds 4, dark brown, with long, silky, marginal hairs.

General distribution: Originally native to Jamaica, now widespread in the Caribbean and the tropics worldwide as an ornamental.

Distribution in Lesser Antilles: Guadeloupe!, Martinique!, St. Lucia!.

Common name: Liane rouge à tonnelle.

Note: Powell (J. Arnold Arbor. **60:** 268. 1979) has commented on the occurrence of hybrids between *Ipomoea horsfalliae* and *I. repanda* Jacq., and the likelihood that much of the material labelled *I. horsfalliae* in herbaria is actually of hybrid origin. There seems to be an intergradation of character states between the Jamaican and Lesser Antillean populations, and much of the variation has been accommodated in the taxon known in the botanical and horticultural literature as *I. horsfalliae*.

Ipomoea imperati (M. Vahl) Griseb., Cat. Pl. Cub. 203. 1866; LaValva & Sabato, Taxon **32:** 114. 1983.

Basionym: *Convolvulus imperati* M. Vahl, Symb. Bot. **1:** 17. 1790.
Lectotype: unnumbered Imperato illustration cited as "*Convolvolo marino*" Imper. h[ist]. n[at]. 671. 1672; vide LaValva & Sabato, loc. cit.
Syn.: *Ipomoea stolonifera* J. Gmelin, Syst. Nat. ed. 13, **2:** 345. 1791, new name for *Convolvulus stoloniferus* Cirillo, Pl. Rar. Neapol. **1:** 14, *t. 5.* 1788, nom. illegit. with same circumscription as *Convolvulus sinuatus* Petagna, Inst. Bot. **2:** 353. 1787. (Lectotype: Italy, Bagnoli, vic. Naples, *Petagna s.n.* (POR); chosen by LaValva & Sabato, loc. cit.).
Convolvulus acetosaefolia M. Vahl, Eclog. Amer. **1:** 18. 1797. (Type: America meridionali, *von Rohr 139* (C, n.v.; IDC 2201. **12:** I. 7, photo!).

Seashore plant with wrinkled stems creeping in sand, rooting at nodes, occasionally climbing bushes, glabrous or with few patent hairs occasionally at nodes or tops of petioles. Leaves with petioles 0.5-10 cm long; blades usually simple, oblong, 2-13 × 0.5-4 cm, usually twice as long as wide, base short-attenuate but varying to cordate, hastate, or even lobed, apex emarginate, mucronate. Inflorescences 1-(to 3-) flowered with peduncles usually as long as petioles; bracts small. Flowers with pedicels stouter and longer than peduncles; sepals equal or with 2 outer ones shorter, oblong, ca. 15 mm long in flower, apex mucronate, becoming somewhat larger and usually purplish or purple-spotted in fruit; corolla campanulate to broad funnelform, 4-5 cm long, white, throat yellow within, sometimes purple at base. Capsules globose to conical depending on number of seeds, 4-celled, 4-valved; seeds (1 to)4, with woolly hairs.

General distribution: Circumtropical in littoral habitats.

Distribution in Lesser Antilles: Guadeloupe, Martinique, St. Lucia!, St. Vincent!.

Common name: Liseron blanc.

Note: The change of name for this well known and widely recognized species is regrettable in that many botanists will be unfamiliar with the new epithet, yet LaValva and Sabato are correct in their appraisal of the situation and must be followed.

Ipomoea indica (Burman) Merr. var. **acuminata** (M. Vahl) Fosb., Bot. Not. **129:** 38. 1976.

Basionym: *Convolvulus acuminatus* M. Vahl, Symb. Bot. **3:** 26. 1794.
Type: St. Croix, *West s.n.* (no specimen at C; IDC 2201. **12:** II. 1, 2 is *von Rohr s.n.*, without locality).
Syn.: *Ipomoea acuminata* (M. Vahl) Roemer & Schultes, Syst. Veg. **4:** 228. 1819, non Ruíz & Pavón (1799), an invalid name published in synonymy.

Herbaceous vine of hedges and fields, occasionally rooting along stem, not only at nodes, glabrous or occasionally pubescent. Leaves with petioles longer or shorter than blades; blades cordate, simple or 3-lobed, middle lobe oblong or elliptic, lateral lobes ovate, midrib to 10 cm long, apex acuminate, mucronate. Inflorescences cymose with peduncles (1- to) several-flowered; bracts linear, 10-18 mm long, membranous. Flowers with sepals very unequal in width, outer 2 ovate, innermost almost linear, to 2 cm long, apex acuminate, membranaceous (frequently curling upon drying); corolla funnelform, 6-7 cm long, deep blue with white center early in morning, blue portion becoming purple to pink late in day; ovary surrounded by deep disc, stigma usually 3-lobed. Capsules globose, 10-15 mm wide, beaked, (2-to)3-celled, 3(to 6)-valved; seeds black, smooth, with short hairs around hilum.

General distribution: Tropical America.

Distribution in Lesser Antilles: St. Kitts!, Montserrat, Guadeloupe, St. Vincent.

Common name: Patate marron, lyenn dous, liane douse.

Note: The trimerous gynoecium is characteristic of *Ipomoea* species belonging to section *Pharbitis.* Fosberg (loc. cit.) has commented on the complex nomenclature of this and the closely related *I. nil.*

Ipomoea mauritiana Jacq., Collect. **4:** 216. 1791.

Type: A plant from Mauritius cultivated at Vienna, doubtfully preserved; vide Verdcourt, Fl. Trop. E. Africa 135. 1963.
Syn.: *Ipomoea digitata* auct. mult., non L. (1759).

Heavy vine with tuberous roots. Leaves with petioles shorter than blades, usually with minute hairs, glandular distally; blades usually deeply palmatifid, to 10 × 15 cm, with 7, 5, or 3 lobes, the lobes oblong-lanceolate, entire, the basal ones sometimes ovate, veins usually with minute hairs. Inflorescences with many to few, crowded flowers; peduncles usually longer and stouter than petioles. Flowers with buds rounded; sepals concave, ca. 8 mm long, apex rounded, coriaceous, glabrous; corolla ca. 5 cm long, pink, lilac, or sometimes darker. Capsules globose, ca. 1 cm in diameter, 2-celled, 4-valved, basal portion cupped by calyx; seeds 4, with long hairs.

GENERAL DISTRIBUTION: The tropics.

DISTRIBUTION IN LESSER ANTILLES: Martinique, St. Vincent!, Barbados.

NOTE: This species has been continually misidentified as *I. digitata* L., a taxon that is restricted to Hispaniola. *Ipomoea mauritiana* is widespread in the tropics, but may have originated in northern South America. Its dispersal has certainly been aided by human travel since the discovery of the New World, and the plant collected from Mauritius and described by Jacquin was almost certainly introduced there.

Ipomoea nil (L.) Roth, Catal. Bot. **1:** 36. 1797.

Basionym: *Convolvulus nil* L., Sp. Pl. ed. 2, **1:** 219. 1762.
Lectotype: Dill., Hort. Eltham. *t. 80, fig. 91.* 1732; vide Verdcourt, Taxon **6:** 232. 1957.
Syn.: *Convolvulus hederaceus* auct. mult., not *Ipomoea hederacea* Jacq. (1786).
Ipomoea longicuspis Meissner var. *brevipes* Meissner *in* C. Martius, Fl. Bras. **7:** 227. 1869. (Type: Martinique, *Sieber Fl. Mart. 30* (?M, not found).)

Herbaceous twiner; stems, petioles, and peduncles usually retrorsely pilose. Leaves entire to deeply 3-lobed, midrib to 12 cm long, base cordate, apex acuminate, blunt to acuminate at tips of lobes, pilose to glabrescent on both surfaces. Inflorescences (1- to) several-flowered with peduncles 1-16 cm long; bracts linear, the lowest 8-10 mm long. Flowers with sepals 2-3 cm long, broader, hirsute at base, upper portion upright, elongate and linear, scarcely tapering; corolla funnelform, 3-5 cm long, blue with white tube. Capsules globose, 3-celled, 3-valved, surrounded by sepals widened at base; seeds 6 or fewer, brown-black, puberulent.

GENERAL DISTRIBUTION: Throughout the tropics; often cultivated.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts, Antigua, Saba, St. Eustatius, Montserrat!, Guadeloupe, Dominica!, Martinique, St. Lucia, St. Vincent, the Grenadines!, Grenada, Barbados.

COMMON NAMES: Liseron hallier, liseron bleu.

NOTE: This species is sometimes cultivated in the Lesser Antilles.

Ipomoea obscura (L.) Ker Gawler, Bot. Reg. **3:** *t. 239.* 1817.

Basionym: *Convolvulus obscurus* L., Sp. Pl. ed. 2, **1:** 220. 1762.
Type: Java, Batavia. Dill., Hort. Eltham. t. 83, fig. 95. 1732, is a syntype.

Slender vine. Leaves with petioles usually slightly shorter than blades; blades cordate, varying in size to ca. 8 cm from base of basal lobe to apex, margin entire, glabrous, sometimes ciliate, or more often hairy on one or both surfaces. Inflorescences 1- to 3-flowered with peduncles longer and more slender than subtending petioles; bracts 2, minute. Flowers with buds pointed; sepals subequal, 3-4 mm long, apex acute, glabrous to pubescent; corolla funnelform, 2-2.5 cm long, white or cream, dark-centered. Capsules globose, ca. 1 cm high, 2-celled, 4-valved, straw-colored; seeds 4, black, completely covered by short hairs.

GENERAL DISTRIBUTION: Eastern tropical Africa to Fiji, Polynesia, West Indies.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Marie Galante, St. Lucia!, Barbados.

Ipomoea pes-caprae (L.) R. Br. subsp. **brasiliensis** (L.) Ooststr. Blumea **3:** 533. 1940.

Basionym: *Convolvulus brasiliensis* L., Sp. Pl. **1:** 159. 1753.
Lectotype: Brazil, Plum., Descr. Pl. Amér. *t. 104.* 1693; chosen by H. St. John, Ninth Pacific Sci. Congr. Abstr. 65. 1957.

Prostrate seashore plant, glabrous; stems with latex. Leaves with petioles 1-12 cm long; blades oblong to rotund, to 12 cm long, base truncate to cuneate, apex emarginate to shallowly lobed, mucronate, subcoriaceous, with gland on either side of midrib abaxially at base of blade. Inflorescences (1- to) several-flowered with peduncles shorter or longer than subtending petioles; bracts small. Flowers with pedicels 2-5 cm long; sepals unequal, outer 2 shorter, inner ones ca. 1 cm long, apex rounded, mucronate; corolla funnelform, ca. 5-6 cm deep, dark lavender. Capsules globose, 2-celled, 4-valved, lower portion surrounded by persistent calyx, brown on outside, very light brown to white within; seeds 4, covered with dark brown hairs.

GENERAL DISTRIBUTION: Tropical seashores.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts, Antigua, St. Eustatius, Montserrat!, Guadeloupe, La Désirade, Dominica!, Martinique, St. Lucia!, St. Vincent!, the Grenadines, Grenada!, Barbados!.

COMMON NAMES: Brievengat, ivy, sea vine, sea wisse, patate bord de mer, patat bòd, passe-pierre, lanmé, seaside yam, goat's foot, ipomoea.

NOTE: St. John (loc. cit.; Bot. Jahrb. **89**(4): 563-583. 1970) would recognize this taxon as a species distinct from *I. pes-caprae,* but the variability in leaf shape and corolla morphology in a family notorious for phenotypic plasticity is insufficient to accord specific rank in our eyes. We feel van Ooststroom's earlier (loc. cit.) placement as a subspecies is a more accurate assessment of the situation.

Ipomoea phyllomega (Vell. Conc.) House, Ann. New York Acad. Sci. **18:** 246. 1908 (as ''phillomega'').

Basionym: *Convolvulus philomega* Vell. Conc., Fl. Flumin. 74. 1829; Icones **2:** *pl. 63.* 1831 (as ''phillomega'').
Lectotype: loc. cit. *pl. 63;* chosen by Austin & Cavalcante, Convolvuláceas da Amazónia 74. 1982.

High-climbing forest twiner. Leaves with petioles half as long as midrib of blade or less; blades large, cordate, to 19 × 21 cm. Inflorescences large, lax corymbs with peduncles stout, widely branched; bracts lanceolate, 1-1.5 cm long, caducous. Flowers with 2 outer sepals 1.5-2 cm long, apex blunt or rounded, tinged color of corolla, ± surrounding 3 inner, considerably smaller sepals; corolla campanulate, tube wide, ca. 4 cm deep, limb ca. 6 cm in diameter, magenta or deep purple. Capsules globose, beaked, 3-celled, 4-valved, surrounded by sepals; seeds 4, pubescent, with long, marginal, brown, silky hairs persistent on end opposite hilum.

General distribution: Central and South America, West Indies.

Distribution in Lesser Antilles: St. Kitts, Guadeloupe, Dominica!, Martinique, St. Lucia!, St. Vincent.

Common name: Patate marron.

Ipomoea quamoclit L., Sp. Pl. **1:** 159. 1753.

Type: LINN 219.1.

Slender, glabrous, herbaceous twiner. Leaves with petioles < 1 cm to as long as leaf blades, to 6 cm; blades ovate, very deeply pinnately parted, segments linear, apical segment usually mucronate, basal pair subdivided; leaves of axillary buds appearing like stipules. Inflorescences 1- to few-flowered with peduncles usually longer than subtending petioles; bracts small. Flowers scarlet or occasionally white (Guadeloupe); sepals unequal, longest (inner) ca. 5-6 mm long, apex rounded, mucronate; corolla salverform, tube 2-2.5 cm long, limb 5-lobed, ca. 2 cm across; stamens and pistil exserted, entire pistil often persisting until capsule matures. Capsules ovoid, 4-celled, 4-valved, straw-colored, lower portion surrounded by persistent calyx, septa persistent, transparent, with brown margins; seeds 4, ovoid, black with minute brown hairs.

General distribution: Of uncertain origin; widespread in the tropics; usually cultivated.

Distribution in Lesser Antilles: St. Martin, St. Barts, Antigua, Saba, St. Eustatius, St. Kitts, Guadeloupe!, Marie Galante, Dominica, Martinique, St. Lucia!, St. Vincent, the Grenadines, Grenada, Barbados.

Common names: Regadero, sweet Willy, sweet William, cheveux de Vénus, liane rouge, herbe à éternuer, goutte de sang, lin.

NOTE: In the Lesser Antilles this species is usually cultivated but frequently escapes.

Ipomoea repanda Jacq., Enum. Syst. Pl. 13. 1760 (as "Ipomaea"); Select. Stirp. Amer. Hist. 28, *pl. 20.* 1763.

Lectotype: loc. cit. *pl. 20*; vide Austin, Ann. Missouri Bot. Gard. **64:** 336. 1977.
Syn.: ?*Ipomoea eriosperma* Bertero ex Choisy *in* DC., Prodr. **9:** 388. 1845. (Type: "in Guadalupa" rept., *Bertero s.n.* (specimen not traced).)

High climbing, glabrous twiner with tuberous roots. Leaves with petioles ca. half as long as blades; blades ovate to cordate, to 11 × 7 cm, base truncate or cordate, apex obtuse or acuminate and mucronate, margin usually entire, somewhat coriaceous, occasionally 1 or 2 long, narrow lobes on either side at base, the center lobe narrow, gradually tapering to apex. Inflorescences lax, compound umbels tending to branch dichotomously, (1- to) several-flowered; peduncles stouter and longer than subtending petioles; bracts linear, caducous. Flowers with sepals subequal, ca. 6-7 mm long, apex rounded, tinged color of corolla; corolla tube ca. 3 cm long, curved, limb lobed to tube, lobes reflexed, 1.5-2 cm long, bright pink to cerise; stamens and pistil exserted. Capsules ovoid, 10-12 mm high, beaked, 2-celled, 4-valved, sitting in calyx, brown, the valves lighter within; seeds 4, black, with 2 rows of long, silky, brown hairs.

GENERAL DISTRIBUTION: Puerto Rico, Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Barbuda, Antigua, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Liane patate, patate grand bois, patate rouge bord de mer, capi, fleur rouge bois.

NOTES: This species is sometimes cultivated in the Lesser Antilles and may hybridize with *I. horsfalliae* (vide Powell, J. Arnold Arbor. **60:** 268. 1979). The Puerto Rican material of this taxon differs slightly from the Lesser Antillean in that the leaves are narrower and the pedicels widen more gradually into the calyx. Powell (loc. cit. p. 259) reduced *Ipomoea microdactyla* Griseb. to varietal status under *I. repanda.* Both taxa have flowers specialized for bird pollination, a syndrome that occurs with some frequency in West Indian Convolvulaceae. Smaller, vivid red corollas with an entire limb characterize the populations known as *I. microdactyla* whereas larger, pink to cerise corollas with a deeply divided limb are typical of *I. repanda.* The habits, habitats and geographic ranges of these two taxa are markedly dissimilar: forests of Puerto Rico and the Lesser Antilles for the high-climbing *I. repanda* versus pine flatwoods/coppice on limestone soils in south Florida, Cuba, and the Bahamas for the weakly twining or procumbent *I. microdactyla.* These considerations weigh heavily against combining these taxa, and I prefer to recognize each as a valid species, as did Austin (Ann. Missouri Bot. Gard. **64:** 336. 1977).

Ipomoea setifera Poiret *in* Lam., Encycl. **6:** 17. 1804.

Type: Guyana, *Brocheton s.n.* (P-LA, n.v.; IDC 6207. **461:** III. 5, photo!).
Syn.: *Convolvulus ruber* M. Vahl, Eclog. Amer. **2:** 12. 1798. (Type: America meridionali, *von Rohr 110* (C, n.v.; IDC 2201. **14:** I. 1 & 2, photos!).

Trailing or twining herbaceous vine; stems with or without long, stiff, yellow hairs. Leaves with petioles shorter or longer than blades, sometimes tuberculate; blades usually sagittate, sometimes cordate, midrib to 11 cm long, basal lobes rounded and blunt, apex mucronate, margin entire, glabrous or midrib with or without hairs. Inflorescences 1- to several-flowered; peduncles thicker and shorter or longer than subtending petioles, bearing 2 large, boat-shaped bracts, 1.5-2 cm long. Flowers with pair of bracts that persist until flower matures; pedicels 1-2 cm long; sepals unequal, outer ones ca. 2 cm long, base winged, apex caudate-acuminate, with prominent longitudinal veins, keels becoming more prominent and sometimes muricate with maturity; corolla funnelform, 7-9 cm long, limb 5-pointed, rose-colored. Capsules 2-celled, 4-valved, with calyx surrounding and extending beyond apex; seeds 4, gray-brown, tomentose.

GENERAL DISTRIBUTION: Central America, tropical South America, West Indies, tropical Africa.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique, St. Lucia!, St. Vincent!.

COMMON NAMES: Liane à faux, liane douce, coudrel, patat mawon, patate marron.

Ipomoea sphenophylla Urban, Symb. Antill. **5:** 474. 1908.

Type: St. Eustatius, in montibus Signalhill, 500 m alt. *Suringar s.n.* (holotype, ?B, presumably destroyed).

Glabrous climber. Leaves with petioles (10-)15 mm long; blades oblanceolate or obtriangular, (3-)7 × (1-)2 cm, gradually sloping to base, apex truncate and retuse, mucronate, margin entire. Inflorescences several- to many-flowered with peduncles 2-3 cm long. Flowers with pedicels (2-)3 cm long; sepals subequal, 5-7 mm long, apex rounded, chartaceous; corolla unknown. Capsules globose, 6-7 mm in diameter, 4-valved(?); seeds 4 mm long, dark brown, with long, light brown, woolly hairs on margin.

GENERAL DISTRIBUTION: Endemic to St. Eustatius.

NOTE: Only two collections of this plant have been recorded, both from Signal Hill, and neither has been available for study. The foregoing description is based on Urban (loc. cit.).

Ipomoea tiliacea (Willd.) Choisy *in* DC., Prodr. **9:** 375. 1845.

Basionym: *Convolvulus tiliaceus* Willd., Enum. Pl. **1:** 203. 1809.

Type: Brazil, labelled *Hoffmannsegg s.n.* but actually collected by *Sieber* (holotype, B-W #3691, n.v.; IDC 7440. **255:** I. 1, photo!).

Syn.: *Ipomoea gracilis* sensu auct., non R. Br. (1810).

Glabrous climber with slender stems, the older stems becoming striate, twisted, gray, and wiry on drying; roots sometimes tuberous. Leaves with petioles slender, ca. as long as blades, sometimes red; blades cordate or sagittate, occasionally dentate or lobed at base, midrib to 14 cm long, usually shorter, apex acuminate and mucronate, veins sometimes red. Inflorescences fastigiate, few- to many-flowered, with peduncles usually stouter and longer than subtending petioles; bracts small and caducous. Flowers with sepals ca. 1 cm long, apices long-pointed, very conspicuous in crowded, long and narrow buds, widening in flower, inner ones much wider, all retaining the acuminate tips, thin-chartaceous, with single medial vein, or no veins apparent, usually glabrous; corolla funnelform, pale lilac with deep purple center; anthers bearing microscopic glandular papillae. Capsules depressed-globose, beaked, 2-celled, 4-valved, brown, with sepals reflexed against pedicel; seeds 4 or fewer, smooth, brown-black; septum persistent.

GENERAL DISTRIBUTION: Tropical America, Polynesia, introduced into Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua, Saba, St. Eustatius, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados.

COMMON NAMES: Wild potato vine, wild potato, wild slip, liane douce, patate marron, patate bâtard, patate à cochon, patate sauvage, hogmeat, caapi.

NOTE: This species, with conspicuous flowers, is a climber on trees and shrubs. According to Duss (Ann. Inst. Bot.-Géol. Colon. Marseille **3:** 437. 1897), it bears tuberous roots that are edible but lack the flavor of the sweet potato, *I. batatas.* The two species are so closely related that it is sometimes extremely difficult to determine herbarium material. Flowering material may easily be separated if the corollas are dissected: *Ipomoea batatas* has staminal filaments that are pubescent basally and glabrous above, while *I. tiliacea* has staminal filaments that are pubescent almost to the anther. The sweet potato is cultivated throughout the tropics; its stout, succulent stems with upturned tips run along the ground, sending down frequent roots that produce palatable storage organs. *Ipomoea batatas* also differs from *I. tiliacea* in sometimes being quite hairy and in frequently having palmately divided leaves. Its inflorescence is less conspicuous, smaller, more umbellate, and with coarser pedicels, the sepals are subcoriaceous and have 3 to 5 veins; herbarium material rarely has fruits, either because the plants rarely set fruit or because it seldom gets a chance to, the roots being harvested first. The ovaries and fruits usually have long, stiff hairs.

Ipomoea tricolor Cav., Icon. **3:** 5, *t. 208.* 1795.

Type: Mexico, *Cavanilles s.n.* (MA, n.v.; photo, FAU).
Syn.: *Ipomoea violacea* sensu auct., non L. (1753).

Glabrous climber. Leaves with petioles shorter than to twice as long as blades; blades cordate, to 12 × 14 cm, basal sinus 2-3 cm deep, apex pointed, mucronate. Inflorescences few- to several-flowered with peduncles usually longer and stouter than subtending petioles; bracts minute. Flowers with pedicels 2-3 cm long; sepals equal, triangular, 3-5 mm long, apex acute, green with white edge; corolla funnelform, to 7 cm long, blue. Capsules conical, ca. 1 cm tall not including long beak that falls off at dehiscence, 2-celled, 4-valved; seeds 4, black, pilose.

GENERAL DISTRIBUTION: Originally from Central America, now widespread in the New and Old World tropics through cultivation.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua!, Saba, Guadeloupe.

COMMON NAME: Liane douce.

NOTES: Confusion over the correct application of the name *Ipomoea violacea* L. has persisted for decades. Many students of Convolvulaceae have long applied *I. tricolor* to the Mexican taxon widely cultivated as an ornamental (cv. Heavenly Blue, Pearly Gates, Flying Saucers). Several others have continued to apply *I. violacea* to this taxon. Manitz (Feddes Repert. **88:** 265-271. 1977) sorted through the complex nomenclature involved and determined that *Ipomoea violacea* should properly be applied to the plant known as the beach moonflower (*Ipomoea macrantha* Roemer & Schultes, or *I. tuba* (Schldl.) Don), and not to the present taxon. This change of name is more bothersome for the beach moonflower, as it is well known under its earlier names and the specific epithet now to be applied is not particularly appropriate for a white-flowered species. Powell, Nicolson, and Austin (Brittonia **30:** 199-202. 1978) provisionally accepted Manitz' conclusion, and the new name was recently employed by Austin (*in* Correll & Correll, Fl. Bahama Arch. 1181. 1982). After reviewing the literature pertinent to this long-standing debate we concur with Manitz and likewise effect his nomenclatural change.

Ipomoea triloba L., Sp. Pl. **1:** 161. 1753.

Lectotype: Sloane, Voy. Jamaica **1:** *t. 97, fig. 1.* 1707; chosen by Austin, Bull. Torrey Bot. Club **105:** 127. 1978. The specimen in the Linnaean herbarium (LINN 219.10) was probably added after 1753 and does not typify this name.
Syn.: *Ipomoea eustachiana* Jacq., Observ. Bot. **2:** 12, *t. 36.* 1767. (Lectotype: loc. cit. *t. 36*; chosen by Austin, loc. cit.)

Light creeper or climber, glabrous or with few hairs on stems and leaves. Leaves deeply 3-(to 5-)lobed (or occasionally entire), middle lobe lanceolate or ovate, 2-4 cm long, lower lobes deltoid or lobed. Inflorescences 1- to several-flowered with peduncles stouter and sometimes longer than subtending petioles. Flowers with pedicels often tuberculate; sepals unequal, ca. 5 mm long, apex acute, mucronate, ciliate and/or hirsute, especially beneath; corolla funnelform, 2-3 cm long, pink-purple. Capsules globose, ca. 5 mm hgh, 2-celled, 4-valved, hirsute above, surrounded by enlarged calyx; seeds 4, dark brown, smooth.

General distribution: Originating in tropical America; now widespread as a tropical weed.

Distribution in Lesser Antilles: Anguilla!, St. Barts, Antigua!, St. Eustatius, St. Kitts!, Guadeloupe!, Martinique!, St. Lucia!, Barbados.

Common names: Liane purgative, petite patate marron, petite liane douce.

Ipomoea turbinata Lagasca, Gen. Sp. Pl. 10. 1816.

Type: A new name for *Ipomoea muricata* (L.) Jacq.
Syn: *Convolvulus muricata* L., Mant. Pl. 44. 1767. (Lectotype: India, Suratt, *Braad s.n.* (LINN 218.18); chosen by Verdcourt, Fl. Trop. E. Africa 130. 1963.
Ipomoea muricata (L.) Jacq., Pl. Hort. Schoenbr. **3:** 40, *t. 323.* 1798, non Cav., (1799 [1794]).
Ipomoea bona-nox L. var. *purpurascens* Ker Gawler, Bot. Reg. **4:** *t. 290.* 1818 [emended to *Ipomoea muricata* (L.) Jacq. at end of volume]. (Type: not designated, plate based on cultivated plants, probably not preserved, grown from seeds obtained in the West Indies.)

Well-branched, glabrous vine with recurved prickles or warts on stems and often on peduncles, sometimes on petioles. Leaves with petioles shorter or longer than midribs, to 10 cm long or more; blades entire or 3-lobed, base deeply cordate, apex acuminate and mucronate. Inflorescences 1- to few-flowered with peduncles heavier and usually shorter than subtending petioles; bracts small, fugacious. Flowers with pedicels thickened above, becoming thicker and retrorse in fruit; sepals unequal, ca. 1 cm long, keeled on midrib, awned, the awns usually flaring outward; corolla funnelform, 5-8 cm long, tube narrow, lilac to purple, nocturnal; stamens scarcely exserted. Capsules conical, 1.5-2 cm high, beaked, 2-celled, 4-valved; seeds 4, brown, smooth.

General distribution: Ubiquitous in the tropics; adventive in the temperate zone; sometimes cultivated.

Distribution in Lesser Antilles: St. Eustatius.

Common name: Lilac bell.

Ipomoea violacea L., Sp. Pl. **1:** 161. 1753; Manitz, Feddes Repert. **88:** 265. 1977; D. Austin *in* Correll & Correll, Fl. Bahama Arch. 1181. 1982.

Lectotype: Copy of Plumier plate prepared for Boerhaave, no. 851, in Bibl. Rijksuniversiteit te Groningen, Ms. 98a, as plate XXXIV; chosen by Manitz, loc. cit. 269.
Syn.: *Convolvulus grandiflorus* Jacq., Hort. Bot. Vindob. **3:** 39, *t. 69.* 1777; Powell et al., Brittonia **30:** 199-202. 1978. (Type: plant cultivated at Vienna from seeds obtained on St. Peter's river, Martinique, doubtfully preserved (holotype, W?).)

Calonyction jacquinii Don, Gen. Hist. **4:** 264. 1837, nomen novum for *Convolvulus grandiflorus* Jacq., non (L.) Choisy (1834).

Ipomoea macrantha Roemer & Schultes, Syst. Veg. **4:** 251. 1819, based on *Ipomoea longiflora* R. Br., Prodr. 484. 1810, non Willd. (1809).

Ipomoea tuba (Schldl.) Don, Gen. Hist. **4:** 271. 1837. (Type: West Indies, St. Thomas, *Ehrenberg s.n.* (holotype, HAL).)

Fleshy, glabrous creeper or climber of coastal areas; older stems straw-colored, drying shiny and wrinkled. Leaves with petioles to 11 cm long; blades with midrib ca. as long as petiole, base deeply cordate, apex usually acuminate, margin entire or occasionally lobed about halfway up each side, each lobe with acuminate tip. Inflorescences 1- or occasionally 2-flowered with peduncles usually shorter than subtending petioles. Flowers with pedicels thickened, becoming longer and more clavate in fruit; sepals subequal (outer slightly shorter than inner), ca. 2 cm long, apex rounded, shortly mucronate, margin thin, accrescent in fruit, becoming fleshy, finally drying and turning back against pedicel; corolla tube narrow, 7-8 cm long, limb ca. as wide as length of tube, white, nocturnal. Capsules globose, 2-3 cm high, 2-celled, 4-valved, the valves parchmentlike, straw-colored; seeds 4, brown-black, pubescent with long, light brown, silky hairs along margin and around hilum.

GENERAL DISTRIBUTION: Pantropical on seashores and in coastal areas.

DISTRIBUTION IN LESSER ANTILLES: Saba, St. Eustatius, St. Kitts!, Guadeloupe, Martinique, St. Lucia, St. Vincent, the Grenadines!, Barbados.

COMMON NAMES: Sultane grande, belle de nuit, fleur de nuit, liane blanche bord de mer, liane douce.

NOTES: This species may be distinguished from the similar *I. alba* by the shortly mucronate, rounded sepals and long, comose hairs on the seeds. Once thought to be closely related, these two species are now placed in different sections of the genus, and their morphological similarities are thought to represent convergence on the moth pollination syndrome and adaptation for similar habitats.

The name change reflects the recent nomenclatural conclusions of Manitz (loc. cit.), which are discussed under *I. tricolor.*

Ipomoea walpersiana Duchass. ex Urban, Symb. Antill. **3:** 345. 1902.

Type: *Duchassaing s.n.* (holotype, B?, probably destroyed).

Glabrous vine; stems ± 3- or 4-angular. Leaves with petioles 4-9 mm long; blades of lower leaves triangular, 7-9 × 6-8 cm, base subtruncate, apex acuminate, of upper leaves narrowly ovate or ovate-triangular, lobes spreading, 3.5-5 × 5-7 cm, base broadly cordate, gradually narrowing to apex, margin entire. Inflorescences several- to many-flowered corymbs with peduncles 3-15 cm long; bracts ovate, (1-) 1.5 cm long. Flowers with pedicels 15-20 mm long; sepals very unequal, outer ones 4-6 mm long, inner ones 7.5-8 mm long, apices rounded, glabrous; corolla narrowly funnelform, 5 cm long, 8 mm wide above middle (herbarium material), purple; ovary 2-celled, ovules 4. Capsules globose, 10-12 mm in diameter, 4-valved; seeds brown-black, velvety, with long, patent, white hairs on margin except at base.

GENERAL DISTRIBUTION: Endemic to Guadeloupe.

NOTE: The information above is based on the original description and Fournet (1978). Only two collections of this taxon are recorded, and neither has been available for study in the preparation of this treatment.

Ipomoea wrightii A. Gray, Syn. Fl. N. Amer. **2**(1): 213. 1878.

Type: United States, Texas, *Wright s.n.* (holotype, GH!).

Syn.: *Ipomoea pulchella* sensu auct., non Roth (1821); Griseb., Fl. Brit. W. Indian Is. 470. 1862. This name was applied by Grisebach to plants from Antigua collected by Wullschlägel.

Slender twiner, almost completely glabrous. Leaves with petioles longer than leaf blades; blades palmately compound, leaflets 5, one or more frequently lobed; leaflets and lobes lanceolate to ovate, middle one not usually conspicuously longer than others, base cuneate, apex obtuse or acute, usually mucronate. Inflorescences with peduncles filiform and wavy, shorter than subtending petioles, twisting to place flower beyond shadow of blade, occasionally tomentose distally; bracts very small. Flowers with pedicels much shorter and sturdier than peduncles, ca. 1 cm long; sepals shorter than pedicels with apex rounded, accrescent, turning completely backward as fruit matures; corolla ca. 2 cm long, lilac. Capsules globose, 2-celled, splitting irregularly, septum transparent, persistent; seeds 4 or fewer, with long, cottony hairs, clinging to remains of fruit indefinitely.

GENERAL DISTRIBUTION: Tropical America.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe, Barbados.

COMMON NAME: Patate marron.

NOTE: This plant, with its uniflorous, spiraling, filiform peduncles is distinctive. Superficially it resembles *Merremia quinquefolia*, which has clusters of white or cream-colored flowers borne on straight peduncles and glabrous or puberulent seeds.

JACQUEMONTIA Choisy

Jacquemontia Choisy, Mém. Soc. Phys. Genève **6:** 476. 1834.

Perennial or annual vines, prostrate herbs, or shrubs; stems usually somewhat woody, with many branches, pubescent, with trichomes typically branched. Leaves simple, often bearing minute glandular dots. Inflorescences with peduncles usually longer than the subtending petioles. Flowers with calyx variable; corolla entire or lobed, with convolvulaceous star prominent, blue, lavender, white, or occasionally reddish; stamens and pistil often exposed; pollen smooth, aggrecolpate; style 1, stigmas 2, kidney-shaped, strap-shaped, rod-shaped, or subglobose, not filiform. Capsules bilocular, valves 8 or fewer (tardily dehiscent?), brown outside, lighter inside and shining, the septum dark brown, opaque, shining, slightly uneven; seeds 4, verrucose or ruminate, minutely areolate, often winged on margins, with 1 rounded and 2 flat sides, glabrous.

LECTOTYPE: *Jacquemontia pentantha* (Jacq.) Don; designated by Lindley (Bot. Register **33:** *pl. 27.* 1847), based on *Convolvulus pentanthos* Jacq. See Robertson, p. 5-6, 1971, for a discussion of the numerous typifications proposed for the genus.

A genus of ca. 100 species, largely tropical and subtropical in distribution, and mostly confined to the New World.

The taxonomic treatment follows K. Robertson (A revision of the genus *Jacquemontia* (Convolvulaceae) in North and Central America and the West Indies. Ph.D. dissertation, Washington University, St. Louis, MO, 1971). As yet unpublished, this revision proposes lectotypes for several taxa, which we accept here, citing Robertson as the authority. Also significant for the Lesser Antilles is K. Robertson, Ann. Missouri Bot. Gard. **61:** 502-513. 1974.

KEY TO THE SPECIES

1. Prostrate herb with 2-armed, T-shaped trichomes; leaves fleshy and obcordate .... *J. ovalifolia* subsp. *obcordata*
1. Climbing or shrubby plants with simple or many-armed trichomes; leaves variously shaped, but not obcordate.
    2. Flowers borne in hirsute, capitate cymes .... *J. tamnifolia*
    2. Flowers solitary or in loose inflorescences.
        3. Corolla blue, red to purple, entire or shallowly lobed.
            4. Inflorescences very lax; flowers tubular, red-purple ... *J. solanifolia*
            4. Inflorescences compact; flowers funnelform, blue.
                5. Leaves and stems velvety .... *J. cumanensis*
                5. Leaves and stems not velvety .... *J. pentantha*
        3. Corolla whitish (rarely pink to red or pale violet), deeply lobed.
            6. Inflorescence sessile or subsessile .... *J. verticillata*
            6. Inflorescence pedunculate.
                7. Leaves thick, often roundish; flowers solitary or few, on short peduncles .... *J. cayensis*
                7. Leaves not very thick, often linear or oblong; flowers solitary to several, in lax cymes .... *J. havanensis*

Jacquemontia cayensis Britton *in* Britton & Millsp., Fl. Bahamas 349. 1920.

Type: Bahamas, Castle Island, 22 Dec 1907, *P. Wilson 7791* (holotype, NY; isotypes F, GH, MO).

Scrambling shrub or woody vine with many branches; stems, petioles, peduncles, and pedicels pubescent, often hoary, the hairs very short and with several arms. Leaves with petioles usually ≤ 5 mm long; blades elliptic, obovate, oblong or orbiculate, rarely exceeding 3 cm in length, base cuneate or rounded, apex retuse or blunt, usually mucronate, margin entire, with glandular dots on both surfaces and sometimes also lines on lower surface, often tinged reddish brown, glabrous, sparsely pubescent, or tomentose. Inflorescences 1- to few-flowered with peduncles shorter or longer than subtending petioles; bracts minute. Flowers with pedicels ridged, ca. 5 mm long; sepals subequal, 2-3 mm long, glabrous or pubescent, especially at apex; corolla white, deeply 5-lobed, ca. 1 mm long; stamens and pistil well-exserted; stigmas kidney-shaped. Capsules conical, ca. 4 mm high, 8-valved; seeds 4, narrowly winged on 3 margins and sometimes around the hilum.

GENERAL DISTRIBUTION: West Indies.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Barbuda!, Antigua!.

NOTE: Because *Jacquemontia cayensis* can be distinguished from the very similar and variable *J. havanensis* only by the degree of coarseness of its stems, the thickness of its leaves, and the size of its inflorescence, it seems questionable that the species should be maintained as distinct.

Jacquemontia cumanensis (Kunth) Kuntze, Revis. Gen. Pl. **2:** 441. 1891.

Basionym: *Convolvulus cumanensis* Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **3:** 99 [fol. ed. 77]. 1819.

Type: Venezuela, "Crescit in umbrosis Lagunae Chica, Golfo de Cariaco, Provinciae Cumanensis." "Flore Septembri," *Humboldt & Bonpland s.n.* (holotype, P; IDC 6209. **66:** III. 4, photo!).

Syn.: *Convolvulus ferrugineus* M. Vahl, Eclog. Amer. **1:** 17. 1797, non *Jacquemontia ferruginea* Choisy, 1837. (Type: *von Rohr s.n.* (holotype, C, IDC 2201. **13:** III. 2, photo!; isotype, BM).

Woody vine with many branches, pubescent on all parts except corolla and inner parts of flower, with 3-armed, overlapping trichomes. Leaves with petioles to 1.5 cm long; blades ovate, midrib to 4 cm long, base cordate or truncate, apex slightly retuse to acute, usually mucronate, margin entire or somewhat repand and undulate, velvety. Inflorescence a compact cyme bearing few to several flowers; peduncles usually exceeding subtending leaves; bracts small, lanceolate, with fewer hairs on upper surface. Flowers with pedicels very short; sepals very unequal, outer 3 clasping the flower, hairier on outer surfaces, 2 outermost ovate, ca. 6-8 × 6-8 mm, acute, others decreasing in size, the innermost smallest, lanceolate, acuminate; corolla funnelform, scarcely lobed, blue, the petals 12-16 mm long, mucronate; stamens unequal; stigmas kidney-shaped. Capsules enveloped by calyx, ovoid, 4-5 mm long, 8-valved, straw-colored; seeds 4, cream or brown, wingless or rarely with trace of wing.

GENERAL DISTRIBUTION: Puerto Rico, Virgin Islands, Netherlands West Indies, and Venezuela.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Montserrat! (cultivated).

Jacquemontia havanensis (Jacq.) Urban, Symb. Antill. **3:** 342. 1902.

Basionym: *Convolvulus havanensis* Jacq., Observ. Bot. **2:** 25, *t. 45, fig. 3.* 1767.

Type: "Litoralibus circa Havanam," *Jacquin s.n.*, no specimen located; plate designated lectotype by Robertson, p. 48, 1971.

Syn.: *Convolvulus jamaicensis* Jacq., Observ. Bot. **3:** 6. 1768. (Type: unknown, vide Robertson, p. 48, 1971).

Woody climber with many branches, sparsely to densely pubescent with very short, stellate hairs. Leaves variable; petiole short; blades ovate, oblong, or linear, to 5 cm long, base cuneate or rounded, apex rounded, acute, or retuse and mucronate, margin entire, somewhat thickened and revolute in dry material, veins depressed above, somewhat coriaceous, surface often covered with microscopic glandular dots and sometimes lines, with fewer hairs on larger (ovate) leaves. Inflorescences bearing numerous to few, occasionally solitary, flowers with peduncles longer than subtending petioles; bracts reduced to scales. Flowers with pedicels filiform; sepals 2-3 mm long, unequal or subequal, apex rounded to subacute, usually slightly mucronate, glabrous or with few hairs especially at apex, scarious on edges; corolla rotate, deeply lobed, ca. 1 cm long, white or pale rose- purple; stamens and pistil well exserted; stigmas kidney-shaped. Capsules conical, ca. 5 mm tall, 8-valved, brown; seeds 4, winged on 2 outer edges or on all 3 edges and around hilum, brown.

GENERAL DISTRIBUTION: Florida, Mexico, British Honduras, and the West Indies.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Antigua.

Jacquemontia ovalifolia (M. Vahl ex West) H. Hallier subsp. **obcordata** (Millsp.) K. Robertson, Ann. Missouri Bot. Gard. **61:** 508. 1974.

Basionym: *Convolvulus obcordatus* Millsp., Publ. Field Columbian Mus., Bot. Ser. **2:** 88. 1900.

Type: Mexico, Yucatan, along RR ca. 8 km S of Progresso, March 1899, *Millspaugh 1707* (holotype, F; isotype, MO).

Prostrate plant, occasionally rooting at nodes, more or less strigose with 2-armed hairs on stems, petioles, peduncles, and pedicels. Leaves with petioles about half as long as blades; blades obcordate, 1-5 cm long, margin slightly repand, fleshy, glabrous. Inflorescence an umbel bearing (1 to) several flowers; peduncles shorter or longer than subtending petioles; bracts small. Flowers with pedicels filiform and nodding, ca. 5-8 mm long; sepals unequal, ca. 3 mm long, rounded on outer sepal to acute on the inner; corolla rotate, scarcely lobed, ca. 7 mm long, white, blue, or lavender; stigmas strap-shaped. Capsules subglobose, 2- or 4-valved, straw-colored; seeds 4, very narrowly and unevenly winged on margins, brown.

GENERAL DISTRIBUTION: Mexico, Central America, and the West Indies.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Guadeloupe, Marie Galante!.

Jacquemontia pentantha (Jacq.) Don, Gen. Hist. **4:** 283. 1838 [1837?].

Basionym: *Convolvulus pentanthos* Jacq., Collectanea **4:** 210. 1791.

Lectotype: Hb. Jacquin, Hort. Schoenbr. (W); designated by D'Arcy (Taxon **19:** 559. 1970).

Syn.: *Convolvulus nummularius* M. Vahl, Eclog. Amer. **2:** 13. 1798. (Type: "America meridionali", *von Rohr s.n.* (holotype, C).)

Aniseia velloziana (C. Martius) Choisy var. *laxiflora* Meisner *in* C. Martius, Fl. Bras. **7:** 321. 1869. (Syntypes: Venezuela, *Funck & Schlim 22* (n.v.); Antigua, *Wullschlagel 362* (BR!, M!).); vide H. Hallier, Bot. Jahrb. Syst. **16:** 543. 1893.)

Slender vine with many branches, glabrous or with pubescence, usually sparse except on young parts, the trichomes 3-armed. Leaves with petioles slender, 1-4 cm long in mature leaves; blades cordate or narrowly ovate, midrib to 8 cm long, base occasionally truncate, apex usually acuminate or acute, margin entire (appearing glandular especially at tip), surface sometimes gland-dotted. Inflorescences cymose-corymbose, few- to many-flowered; peduncles much longer than subtending petioles, often longer than leaves; bracts membranaceous, lanceolate, varying in size, the lowest sometimes 1 cm long or more. Flowers with pedicels short; calyx accrescent, the sepals unequal, ovate, acuminate, 2 outermost largest, ca. 7 × 5 mm, exposed ones foliaceous; corolla wide-funnelform, flaring from base, 1.5-2.5 cm long, margin entire, usually clear blue with white star, petals only slightly mucronate; stamens and pistil exposed; stigmas rod-shaped. Capsules completely enveloped by calyx, ovoid, 4-5 mm high, 8-valved, tardily dehiscent, brown; seeds 4 or fewer, wingless, brown.

GENERAL DISTRIBUTION: Tropical America, Malaysia, and Ceylon.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin, Barbuda!, Antigua!, Saba, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Liane bleue, calalou à dah, liseron bleu.

Jacquemontia solanifolia (L.) H. Hallier, Bot. Jahrb. Syst. **16:** 542. 1893.
FIGURE 70.

Basionym: *Ipomoea solanifolia* L., Sp. Pl. **1:** 161. 1753, nec Burmann (1768), nec Thunberg (1792).

Lectotype: Plum., Pl. Amer. *t. 94, fig. 1.* 1756; designated by D. Austin (Ann. Missouri Bot. Gard. **64:** 331. 1978).

Syn.: *Ipomoea filiformis* Jacq., Enum. Syst. Pl. 13. 1760; Select. Stirp. Amer. Hist. 27, *t. 19.* 1763. (Type: Martinique, *Jacquin s.n.*, no specimen traced; Robertson (p. 118, 1971) designates Jacq., loc. cit. *t. 19* as the lectotype.)

Slender, twining stems, pubescent on very young parts with 3-armed hairs. Leaves with petioles to 4 cm long, usually ca. 1 cm; blades wide to narrowly ovate, midrib to 6 cm long, base cordate, truncate, or rounded, apex usually obtuse or slightly retuse, mucronate, margin entire, veins depressed above, surface minutely gland-dotted. Inflorescences lax with several flowers; peduncles longer than subtending petioles; bracts minute. Flowers with pedicels ca. 1 cm long; sepals subequal, 3-4 mm long, rounded to acute, usually slightly mucronate, glabrous except sometimes at apex, very narrowly scarious on edges; corolla 2-2.5 cm long, tube narrow, lobed, spreading only in uppermost fifth, red-purple; stamens and pistil exserted; stigmas subglobose. Capsules conical, ca. 5 mm high, 8-valved; seeds 4 or fewer, winged on 3 edges, dark brown.

GENERAL DISTRIBUTION: Puerto Rico, Virgin Islands, and the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Antigua!, St. Kitts!, Guadeloupe!, La Désirade, Marie Galante!, Dominica!, Martinique, St. Lucia!, St. Vincent!, the Grenadines!, Barbados!.

COMMON NAME: Patate grand bois.

Jacquemontia tamnifolia (L.) Griseb., Fl. Brit. W. Indian Is. 474. 1862.

Basionym: *Ipomoea tamnifolia* L., Sp. Pl. **1:** 162. 1753.
Lectotype: Dill., Hort. Eltham. 428. *t. 318, fig. 414* [*410*], 1732. Linnaeus erroneously cited *fig. 414*, which should be *fig. 410*; vide Robertson, pp. 205-206, 1971.

Twining plant, sometimes flowering before twining begins; stems hirsute to glabrate, the hairs long, yellow, and 2-armed (2-armed or simple on leaves, simple and drying reddish brown on inflorescences). Leaves with petioles very short to as long as or longer than blades; blades cordate, sometimes cuneate within basal sinus, midrib to 9 cm long, apex usually acuminate, margin entire, sometimes somewhat repand, or ciliate, upper surface sometimes gland-dotted. Inflorescences very compressed, cymose corymbs with numerous flowers surrounded by foliaceous bracts; peduncles sturdier and much longer than subtending petioles, often longer than the leaves; 2 lowest bracts largest and opposite, lanceolate or ovate, to 4 cm long. Flowers with sepals narrowly triangular, subequal, ca. 1 cm long, hirsute, ciliate, dentate from trichome bases; corolla funnelform, slightly lobed, ca. 1.5 cm long or less, lavender-blue with paler star; stigmas strap-shaped, slightly stalked. Capsules globose but somewhat flattened, ca. 4 mm high, 8-valved; seeds 4, wingless, brown.

GENERAL DISTRIBUTION: Africa and the Mascarenes, tropical America.

DISTRIBUTION IN LESSER ANTILLES: Nevis, Guadeloupe!, Dominica!, Martinique, St. Vincent.

Jacquemontia verticillata (L.) Urban, Symb. Antill. **3:** 339. 1902.

Basionym: *Ipomoea verticillata* L., Sp. Pl. ed 10, **2:** 924. 1759.
Lectotype: LINN 218.15, lower right part of sheet; vide Robertson, p. 79, 1971.

Slender vine, pubescent, especially on young parts, with 3-armed trichomes; stems glabrate with age. Leaves with petioles slender, ± 1 cm long; blades narrowly ovate or oblong, midrib to 4 cm long, base cordate, apex obtuse and mucronate, margin entire or slightly repand. Inflorescences compact cymes of many to few flowers; peduncles very short; bracts very small. Flowers with pedicels 3-4 mm long; sepals subequal, 3-4 mm long, acuminate, pubescent; corolla ca. 5 mm long, deeply lobed, the lobes acute, pink or lavender; stigmas broadly strap-shaped. Capsules globose, ca. 3 mm high, (4- or) 8-valved; seeds 4, winged on 2 or 3 margins, brown.

GENERAL DISTRIBUTION: Mexico, Central America, and the West Indies.

DISTRIBUTION IN LESSER ANTILLES: St. Vincent, the Grenadines, Grenada.

MERREMIA Dennst. ex Endl.

Merremia Dennst. ex Endl., Gen. Pl. Suppl. **1:** 1403. 1841, nom. cons.

Twiners, glabrous or pubescent, the hairs simple, sometimes glandular. Leaves palmately compound or simple, entire, pedate, or palmately lobed; petiole and peduncle usually long. Flowers axillary, solitary or few to several; bracts small; sepals subequal, accrescent, usually stiff and shiny smooth, glabrous or occasionally with hairs; corolla funnelform or campanulate, occasionally slightly lobed, 5-pointed star usually well-defined, often with marked longitudinal striations, yellow or white, with or without dark purple center, glabrous; stamens and pistil well included, anthers usually twisted after dehiscence, pollen smooth, 3-, 6-, or aggrecolpate; ovary usually bilocular, stigma biglobose. Fruit a thin-walled capsule, usually surrounded by enlarged and thickened calyx, dehiscing by 4 valves or irregularly; seeds (1 to) 4, subglobose to carinate, usually with 2 flat and 1 rounded sides, pubescent or glabrous.

TYPE: *Merremia convolvulacea* Dennst., nomen nudum = *M. hederacea* (Burman f.) H. Hallier.

A genus of 80+ species occurring throughout the tropics. An infrageneric classification was proposed by O'Donell (Lilloa **6:** 467-554. 1941). Discussion of the generic limits between *Merremia* and *Operculina* has clarified the characteristics of New World members of both taxa (Staples & D. Austin, Brittonia **33:** 591-596. 1981).

NOTE: The flowers open later in the day than those of many other Convolvulaceae, and this characteristic has resulted in the common name of "noon flower." The genus is often confused with *Ipomoea*, from which it is separable on the basis of the surface of the pollen grains (spinose in *Ipomoea* vs. smooth in *Merremia*) as well as subtle differences in vegetative morphology.

KEY TO THE SPECIES

1. Leaves simple; flowers yellow or white with dark center.
    2. Leaves cordate to hastate, entire to 3-lobed; calyx scarcely enlarged in fruit.
        3. Leaves > 5 cm long; flowers 2-3 cm long, borne in umbels .... *M. umbellata*
        3. Leaves 1.5-5(-6) cm long; flowers to 1 cm long, not borne in umbels .... *M. hederacea*
    2. Leaves very deeply 7-lobed; calyx much enlarged in fruit.
        4. Leaf lobes sinuate-dentate; flowers white with dark center; fruiting calyx ca. 5 cm across with sepals reflexed .... *M. dissecta*
        4. Leaf lobes entire; flowers yellow; fruiting calyx ca. 10 cm across with sepals clasping the fruit .... *M. tuberosa*
1. Leaves compound, leaflets 5; flowers white.
    5. Leaflets entire; stems, leaves, and sepals usually hispid; seeds tan to light brown, glabrous .... *M. aegyptia*
    5. Leaflets serrulate-dentate, crenulate, lobed, or sinuate, (rarely entire); plants ± glandular-pubescent, with or without simple trichomes; seeds dark brown to black, glabrous or puberulent.
        6. Sepals ± equal, apically attenuate-acuminate; plants usually glandular-pubescent .... *M. cissoides*
        6. Sepals subequal or outer 2 sepals markedly shorter, apically obtuse to subtruncate; plants with glandular trichomes on peduncles and lower pedicels only, or eglandular .... *M. quinquefolia*

Merremia aegyptia (L.) Urban, Symb. Antill. **4:** 505. 1910.

Basionym: *Ipomoea aegyptia* L., Sp. Pl. **1:** 162. 1753.
Type: "habitat in tropical America" (holotype, LINN 218.35).

Twiner with hispid stems, sometimes becoming glabrous with age. Leaves with petioles ca. as long as middle leaflet, hispid; blades palmately compound, leaflets 5, sessile, obovate to lanceolate, median to 14 × 6 cm, laterals to 9.5 × 4.5 cm, base cuneate, apex acuminate, margin entire, midrib sunken above and prominent below, hispid with hairs yellow-brown, shorter and fewer than on petiole and stem, more numerous on lower surface, especially on veins. Inflorescences lax dichasia of (1 to) 3 to 9 flowers; peduncles longer than petioles, hairy; bracts 3-4 mm long, narrowly triangular. Flowers with pedicels 2-4 cm long, hairy; buds sharply pointed; calyx upright, the sepals oblong, apex obtuse, outer 2 slightly larger, with lower 2/3 conspicuously covered with long, stiff, patent, yellow-brown hairs, exposed abaxial surfaces of inner ones also hairy at base; corolla campanulate, 3 cm long, star well-marked, white, glabrous; stamens subequal, anthers spiralled at dehiscence, pollen smooth, 3-colpate; ovary 4-locular, ovules 4. Capsules globose, indurate, ca. 1 cm in diameter, subtended by enlarged, spreading calyx, dehiscing regularly by 4 valves exposing conical hood formed by septa; seeds (1 to) 4, light brown, glabrous.

GENERAL DISTRIBUTION: Tropical America, Africa, Asia, Pacific Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts, Antigua, Saba, St. Eustatius!, St. Kitts, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados.

COMMON NAMES: Noyeaux, liane poilue.

Merremia cissoides (Lam.) H. Hallier, Bot. Jahrb. Syst. **16:** 552. 1893.

Basionym: *Convolvulus cissoides* Lam., Tabl. Encycl. **1:** 462. 1793.

Type: French Guiana, Cayenne, *Leblond s.n.* (holotype, P-LA, n.v.; IDC 6207. 462: II. 4, photo!).

Syn.: *Convolvulus pilosus* Wikström, Kongl. Vetensk. Acad. Handl. 1827: 60. 1827, not R. Br. (1814), Rottler (1803), or Roxb. (1814). (Type: Guadeloupe, *Forsström s.n.* (s?, n.v.).)

Convolvulus guadaloupensis Steudel, Nomencl. Bot. ed. **2**(1): 409. 1840, nomen novum for *C. pilosus* Wikström.

Batatas cissoides (Lam.) Choisy var. *integrifolia* Choisy *in* DC., Prodr. **9:** 339. 1845, nomen novum for *C. pilosus* Wikström.

Ipomoea cissoides (Lam.) Griseb. var. *guadaloupensis* (Steudel) House, Ann. New York Acad. Sci. **18:** 206. 1908, nom. illegit.

Scandent or weakly twining herbs; stems slender, cylindrical, to 3-4 m long, hirsute-pilose and often glandular. Leaves with petioles slender, 3-5 cm long; blades palmately compound with 5 variably shaped, petiolulate leaflets, median the largest, bases acute to obtuse, apices long-attenuate, margins entire to dentate, glandular-pubescent. Inflorescences 2- to 7-flowered, cymose clusters or flowers solitary; peduncles slender, to twice length of subtending petiole; bracts linear to attenuate-lanceolate, 3-15 mm long. Flowers with pedicels 3-10 mm long; sepals ± equal, subrhomboid to obovate-acuminate, apex long- attenuate, often with patent yellowish and glandular trichomes; corolla campanulate to funnelform, 1.5-3.5 cm long, white, glabrous; stamens unequal, anthers white, spirally dehiscent, pollen 3-colpate, smooth; ovary conic-ovoid, 4-locular. Capsules subglobose, 4-valved, 7-8 mm long, tan to brown, glabrous; seeds usually 4, subrotund, 3-4 mm long, dark brown to black, glabrous to puberulent.

GENERAL DISTRIBUTION: Mexico, Central and South America, the West Indies, and introduced into the Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe.

NOTE: Widespread on Cuba and Puerto Rico, there is a single confirmed collection known to us from Antigua (*Velez 3690*). The principal distinguishing characters between this and the very similar *M. quinquefolia* are the attenuate, ± equal sepals and linear, 3-15 mm long bracts of the former (vs. deltoid and 1-1.5 mm long in the latter), and the tendency for *M. cissoides* to be markedly glandulose on all parts of the plant, whereas *M. quinquefolia* is eglandular or has the glandular trichomes confined to the peduncles and lower pedicels.

Merremia dissecta (Jacq.) H. Hallier, Bot. Jahrb. Syst. **16:** 552. 1893 (as M. disecta).

Basionym: *Convolvulus dissectus* Jacq., Observ. Bot. **2:** 4, *t. 28.* 1767.
Type: "America," plants grown in Vienna from seeds collected by Jacquin. No specimen located. Plate designated lectotype by D. Austin (Florida Scientist **42:** 219. 1979).

Twiner; stems, petioles, and peduncles glabrous to hispid, the hairs simple, yellow. Leaves with petioles slightly shorter than blade; blades simple but very deeply pedately 7-lobed, the central lobe to 7 × 4 cm, slightly larger than side lobes (except very lowest pair that sometimes do not develop), apex acute, extreme tip rounded and mucronate, margin sinuate-dentate, often with numerous black dots on lower surface, glabrous. Inflorescences few-flowered, lax, cymose, or flowers solitary; peduncles ± equal in length to petioles; bracts triangular, ca. 3 mm long, caducous. Flowers with buds nodding, triangular, sharply pointed; pedicels 1.5-3 cm long; calyx upright in flower, sepals boat-shaped, ovate, unequal, two outer longer and wider, 2-2.5 cm long, apex acute, margin scarious, slightly fleshy and stiff, cream-colored; corolla campanulate, ca. 4 cm long, with well-marked striate star, white with dark red to purple center, glabrous; stamens unequal, anthers just within throat, spirally dehiscent, pollen smooth, 3-colpate; ovary bilocular. Capsules nodding, globose, ca. 1.5 cm high, 4-valved, dehiscing regularly, surrounded by enlarged, spreading calyx, the sepals ca. 3 cm long, brown; seeds 4, broadly carinate, black, glabrous.

GENERAL DISTRIBUTION: Tropical America; introduced into other tropical regions and becoming naturalized.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Bini bini, liane amande amère, liane à noyau, liane noyau, méné-vini, pâte d'amande, sprain-bush, nouyo.

Merremia hederacea (Burman f.) H. Hallier, Bot. Jahrb. Syst. **18:** 118. 1894.

Basionym: *Evolvulus hederaceus* Burman f., Fl. Indica 77, *t. 30, f. 2.* 1768.
Type: habitat in Java, malaice Rabaffa, "*Pryon s.n.*" = *Prayan s.n.* (holotype, G-DEL?, n.v.).

Slender twiner, rooting at and between nodes in contact with soil; stems glabrous or pubescent especially at nodes, occasionally tuberculate. Leaves with petioles usually tuberculate, pubescent on grooved adaxial side; blades simple to 3-lobed, midrib 1.5-4(-5) cm longer than petiole, base cordate, apex acute to acuminate, mucronate, margin entire to coarsely toothed on lower lobes, sparsely strigose above, especially on nerves, or sometimes glabrous, glabrous beneath. Inflorescences 3- to many-flowered cymes, or occasionally flowers solitary; peduncles shorter than petioles to exceeding length of leaves; bracts small, scalelike, caducous. Flowers with calyx usually smooth and shiny, sepals subequal, outer ones truncate, inner ones tridentate, larger, ca. 5 mm long, apex mucronate; corolla campanulate, ca. 8 mm long, limb with 10 distinct lobes, star well-defined by striations, yellow, glabrous; stamens ± equal, reaching to margin of corolla, anthers longitudinally dehiscent, pollen 3-colpate, smooth; ovary 2-celled, style persistent, stigma biglobose, exserted. Capsules ca. 5 mm tall, depressed-globose and transversely wrinkled below, conical above with lighter-colored, dimpled apex, splitting first into 2 valves and later into 4, calyx deflated in mature fruit; seeds 4, carinate, dark brown, pubescent, hairs longer on edges.

GENERAL DISTRIBUTION: Old World tropics; introduced in New World.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!.

NOTE: A very widespread weed in the Old World tropics, this species has also become established in Cuba, Trinidad, and Colombia.

Merremia quinquefolia (L.) H. Hallier, Bot. Jahrb. Syst. **16:** 552. 1893.
FIGURE 71.

Basionym: *Ipomoea quinquefolia* L., Sp. Pl. **1:** 162. 1753.
Lectotype: Pluk., Phytographia *t. 167, fig. 6.* 1696; vide Austin, Ann. Missouri Bot. Gard. **62:** 182. 1975.

Stems twining, glabrous or with long, patent hairs. Leaves with petioles to 5 cm long; blades palmately compound with 5 sessile, lanceolate leaflets, middle leaflet longest, to 7 × 2 cm, apex mucronate, margin serrulate, midribs prominent beneath. Inflorescences of 3- or 5-flowered cymes, or occasionally flowers solitary; peduncles equal to or longer than subtending leaves, with numerous glandular hairs in upper portion (also occasionally true of pedicels); bracts triangular, ca. 1.5 mm long, often mucronate. Flowers opening before subtending leaf matures; buds pointed; calyx accrescent in fruit, sepals unequal, outer 2 oblong-ovate to triangular, ca. 5.5 mm long, 3 mm wide at base, narrower above with mucronate apex, inner 3 oblong, boat-shaped, 7.5-8 × 3 mm, base auriculate, apex rounded with small mucro in middle, stiff, light green, darker in center and toward mucro, glabrous; corolla funnelform, 2 cm long or more, white or cream, glabrous; stamens unequal, anthers spirally dehiscent, pollen 3-colpate, smooth; ovary 4-celled with 4 ovules, style slender, persistent. Capsules depressed-globose, beaked or with entire style attached, dehiscing into 4 valves with 4 transparent, persistent septae, straw-colored with yellow veining on outer surface; seeds 4, carinate, brown, covered with scalelike hairs.

GENERAL DISTRIBUTION: Tropical America.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Guadeloupe!, Martinique!, St. Lucia!, Grenada!, Barbados!.

COMMON NAME: Patate marron.

NOTE: The very similar species *M. cissoides* may be distinguished by its long-acuminate bracts and sepals, and the greater tendency for glandular indumentum. Also compare the solitary flowers on spiralled peduncles and entire leaflets of *Ipomoea wrightii.*

Merremia tuberosa (L.) Rendle *in* Dyer, Fl. Trop. Afr. 4(2): 104. 1905.

Basionym: *Ipomoea tuberosa* L., Sp. Pl. **1:** 160. 1753.
Type: ''habitat in Jamaica'' (holotype, LINN 219.4).

Stout climber, glabrous throughout; roots tuberous. Leaves with petioles as long as blades or longer; blades deeply palmately lobed, to 14 cm long, lobes (5 to)7, lanceolate, apex acuminate, margin entire, median lobe the largest, lateralmost pair smallest, midrib and primary veins prominent beneath, midribs of uppermost pair of lobes usually branching pinnately from central midrib, those of lower ones branching palmately. Inflorescences lax dichasia, 1- to several-flowered; peduncles ca. as long as petioles, becoming woody; bracts triangular, ca. 2 mm long, fugacious. Flowers with pedicels tapering, ca. 1 cm long, becoming woody and 3-4 cm in fruit; sepals unequal, outer 2 shorter than inner 3, ovate, 2-3 cm long, apex rounded; corolla funnelform, ca. 5 cm long, reflexed at margin, yellow, glabrous; stamens unequal, anthers spirally dehiscent at maturity, pollen aggrecolpate, smooth; pistil tapering, persistent, ovules large. Capsules globose, ca. 3 cm tall, appearing 4-valved but usually dehiscing irregularly and detaching from base, thin-walled, straw- colored, surrounded by spreading, accrescent sepals to 6 cm long, woody, striate, brown without, cream-colored and shiny within; seeds usually 2, broadly carinate, black, velutinous, glabrescent.

GENERAL DISTRIBUTION: Tropical America, Africa, Mascarene Islands, India, Ceylon; cultivated in Hawaii and Malaysia. Probably native to tropical America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, St. Lucia (cultivated).

COMMON NAMES: Liane jaune, liane à tonnelle, liane à courtine, bois patate, rose de Jéricho.

NOTE: This is the wood rose of the florist; cultivated as an ornamental in the Lesser Antilles.

Merremia umbellata (L.) H. Hallier subsp. **umbellata**, Bot. Jahrb. Syst. **16:** 552. 1893.

Basionym: *Convolvulus umbellatus* L., Sp. Pl. **1:** 155. 1753.
Lectotype: West Indies, Haiti, Pluk., Phytographia *t. 167, fig. 1. 1696*; vide Austin, Florida Scientist **42:** 221. 1979. A typotype specimen for the Plukenet illustration is in the Sloane herbarium (BM-SL).

Twiner, occasionally prostrate and rooting at nodes, glabrous to pubescent, the hairs simple, white to pale yellow. Leaves with petioles 1/2 to 1-1/2 times as long as midrib; blades simple, cordate, sagittate, or occasionally hastate, to 17 × 12 cm, apex obtuse to acuminate, sometimes emarginate, mucronate, margin entire, palminerved, midrib sunken above, all nerves prominent beneath, when pubescent with hairs more numerous along nerves; stipules small, variable in size. Inflorescences umbels or congested cymes with numerous to few flowers; peduncles usually thicker and much longer than subtending petioles, sometimes winged; bracts small, linear, of varying lengths, caducous. Flowers with pedicels 1-2 cm long; buds blunt; sepals subequal, widely elliptic, boat-shaped, slightly $<$ 1 cm long, apex rounded, mucronate, stiff but with thin edges; corolla funnelform, 2-3 cm long, flaring abruptly above calyx, star well-marked but not striate, with tuft of pubescence on tips of interplicae, otherwise glabrous; stamens subequal, anthers longitudinally dehiscent, pollen (5- or) 6-colpate, smooth; ovary bilocular, ovules 4, style persistent. Capsules globose, 4-valved, dehiscing regularly, brown, with sepals forming cup around base, separating somewhat, not very much larger than in flower; seeds 4, carinate, dark brown, pubescent, especially on angles.

GENERAL DISTRIBUTION: Tropical America, West Africa, occasionally in the Far East where it has been introduced.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines, Grenada!, Barbados!.

COMMON NAMES: Liane à berceau, liane-berceau, liane à malingres, liane douce jaune, liane à tonnelle, fleur patate jaune, hog vine.

NOTE: The most common species of the genus in the New World, growing as a liana or forming dense mats on the ground or vegetable curtains over trees and shrubs. Sometimes cultivated in the Lesser Antilles. Highly variable in leaf morphology and size, the vivid yellow flowers and umbellate inflorescences are diagnostic for this species. The Old World *M. umbellata* subsp. *orientalis* has long hairs on the seeds and usually has white flowers.

OPERCULINA A. Silva Manso

Operculina A. Silva Manso, Enum. Subst. Braz. 16, 49. 1836.

Twining plants with perennial stems; stems, petioles, peduncles, and pedicels often winged. Leaves entire or lobed. Inflorescences with peduncles longer than subtending petioles. Flowers with pedicels often clavate, enlarged in fruit; buds pyriform; calyx large, often not green; corolla campanulate or wide-funnelform, white, yellow, or purple, hirsute on backs of interplicae or glabrous; pollen 3-colpate, smooth; ovary bilocular, ovules 4, stigmas biglobose. Capsules with exocarp separating as an operculum, remainder of fruit wall fragmenting irregularly or dehiscing by 4 valves; seeds 4, smooth, glabrous or velutinous, glabrescent.

LECTOTYPE: *Operculina turpethum* (L.) S. Manso; vide Meeuse, Bothalia **6**(4): 708. 1957.

A genus of about a dozen species distributed in the tropics. The tendency for alate stems, petioles, peduncles, and pedicels, the usually pubescent corollas, and operculate fruits separate *Operculina* from the very similar and closely related genus *Merremia*. Recent nomenclatural changes pertinent to Lesser Antillean taxa are discussed in G. Staples & D. Austin (Brittonia **33:** 591-596. 1981) and D. Austin & G. Staples (J. Arnold Arbor. **64:** 483-489. 1983).

KEY TO THE SPECIES

1. Leaves palmately lobed . . . . *O. macrocarpa*
1. Leaves cordate, hastate, or shallowly 3-lobed.
    2. Stems terete; flowers white . . . . *O. turpethum* var. *ventricosa*
    2. Stems alate; flowers yellow or violet.
        3. Leaves and stems pubescent; corolla violet; inflorescences 5-to 8-flowered . . . . *O. leptoptera*
        3. Leaves and stems glabrous or glabrescent; corolla yellow; flowers usually solitary . . . . *O. alata*

Operculina hamiltonii (Don) Austin & Staples, J. Arnold Arbor. **64:** 487. 1983. FIGURE 72.

Basionym: *Ipomoea hamiltonii* Don, Gen. Hist. **4:** 268. 1838, nomen novum for *Convolvulus alatus* Ham.

Type: Tobago, Scarborough, *Hamilton s.n.* (n.v.).

Syn.: *Convolvulus alatus* Ham., Prodr. Pl. Ind. Occid. 24. 1824 [1825], not Sprengel (1819).

Operculina alata Urban, Symb. Antill. **3:** 343. 1902.

Climber with stems usually winged. Leaves with petioles 1-3 cm long; blades ovate or ovate-lanceolate, sometimes 3-lobed, to 9 × 5 cm, base cordate, apex acuminate, mucronate, margin entire, glabrous or glabrescent. Flowers usually solitary with peduncles winged, much longer than subtending petioles; bracts lanceolate, ca. 1 cm long, acuminate, scarious, reddish brown when dry; pedicels clavate, becoming thickened and 5-angled in fruit; buds pyriform, acute; calyx large, sepals 2.5-3 cm long, obtuse, mucronate, scarious but becoming more coriaceous in fruit, reddish brown when dry; corolla campanulate, twice as long as calyx, yellow, hirsute on backs of interplicae. Capsules globose, ca. 1 cm high, splitting irregularly, enveloped by calyx; seeds 4, globose-carinate, brownish black, glabrous.

GENERAL DISTRIBUTION: Tropical America.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, St. Vincent!, Grenada.

NOTES: The inflated pear-shaped calyx and bright yellow corolla of this species are distinctive characters.

Operculina leptoptera Urban, Symb. Antill. **3:** 342. 1902.

Type: Martinique, Hauteurs des Trois Islets, *Duss 426* (holotype, B?, destroyed, n.v.; no duplicates found at F, L, MO, NY, P).

Climber with winged stems, wings arising from decurrent petioles; stems bearing short, appressed hairs. Leaves with petioles (0.8-)3 cm long, patent pilose; blades triangular-ovate, 8 × 5-6 cm, base deeply cordate, apex acute or somewhat obtuse, mucronate, margin entire, minutely pubescent on both surfaces, especially on nerves beneath. Inflorescences corymbose, 5- to 8-flowered; peduncles 3.5-5 cm long, scarcely winged; bracts lanceolate-oblong or oblong, (10-)17 mm long, short-acuminate. Flowers with pedicels 3-3.5 cm long; sepals 17-22 mm long, outer ones longer, yellow-green, smoothly tomentose; corolla 5-5.5 cm long, violet, glabrous; anthers spirally dehiscent, pollen 3-colpate, smooth. Fruits not seen.

GENERAL DISTRIBUTION: Endemic to Martinique.

NOTE: This species is included here with reservations. While the alate stems, spirally dehiscent anthers, and non-spinulose, 3-colpate pollen described by Urban suggest the genus *Operculina*, these traits also occur throughout the larger genus *Merremia*. Glabrous corollas are characteristic of neotropical *Merremia*, but violet corollas are unknown in either genus. Operculate capsules are the single critical character that defines *Operculina*; since the type specimen was not fruiting, inclusion of the taxon in this genus remains speculative. This situation is not likely to be resolved as *Duss 426* seems to have been a unicate destroyed with the Berlin herbarium, and subsequent collections in the type locality have not produced additional specimens.

Operculina macrocarpa (L.) Urban, Symb. Antill. **3:** 343. 1902.

Basionym: *Convolvulus macrocarpos* L., Syst. Nat. ed. 10, **2:** 923. 1759.

Lectotype: Plum., Pl. Amer. 80, *pl. 91, fig. 1.* 1756, based on a plant from Guadeloupe collected by Plumier; vide Heine, Kew Bull. **14:** 398. 1960. The specimen filed under the basionym in the Linnaean herbarium (LINN 218.34) is *Ipomoea mauritiana* Jacq.

Woody climber; stems winged, 4-sided. Leaves with petioles 2.5-7.5 cm long, decurrent on stem; blades 3- to 7-lobed, divided nearly or completely to base, lobes 3.5-10 cm long, attenuate at both ends, margin entire. Inflorescences 1- or 2-flowered; peduncles winged, longer and stouter than subtending petioles; bracts caducous. Flowers with pedicels 2-4 cm long, winged; sepals elliptic, 1.5-2.5 cm long, obtuse, straw-colored; corolla campanulate, 4-5 cm long, white, hirsute on backs of interplicae. Capsules depressed-globose, 2.5-4 cm in diameter with irregular dehiscence, furrowed above, surrounded by calyx; seeds 1 to 4, broadly ovoid to ovoid-trigonous, black, minutely pubescent near hilum, glabrous elsewhere.

GENERAL DISTRIBUTION: Brazil, Cuba, Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique.

Operculina turpethum (L.) A. Silva Manso var. **ventricosa** (Bertero) D. Austin & Staples, Brittonia **33:** 595. 1981.

Basionym: *Convolvulus ventricosus* Bertero *in* Colla, Hortus Ripul. 37. 1824, not A. Silva Manso (1836).

Type: "Guadeloupe ubi in hortis cultus ex Ins. S. Bartholomei," *Bertero s.n.* (n.v.)

Syn.: *Operculina ventricosa* (Bertero) Peter *in* Engl. & Prantl, Nat. Pflanzenfam. **4**(3a)**:** 32. 1891; Powell, J. Arnold Arbor. **60:** 246. 1979.

Operculina grandiflora sensu House, Muhlenbergia **5:** 69. 1909, pro parte, not *Convolvulus grandiflorus* Jacq. (1777).

Climber with many long branches, glabrous or pubescent on young parts. Leaves with petioles slender, ca. 5 cm long; blades large, broadly cordate, to 16 cm long, apex acuminate, mucronate, glabrescent, hairs chiefly on nerves below. Inflorescence a cyme or the flowers solitary; peduncles longer than subtending petioles, stout, pubescent; bracts oblong, 2-3 cm long, acuminate. Flowers with pedicels thickened above, angular, pubescent, becoming much enlarged in fruit; calyx with sepals ovate, 2.5-3.5 cm long, obtuse, mucronate, membranous, glabrescent, accrescent; corolla expanding directly beyond calyx into broadly funnelform limb, 5-7.5 cm long, white or cream, glabrous; anthers spirally dehiscent, pollen 3-colpate, smooth. Capsules globose, ca. 2.5 cm in diameter, splitting irregularly (herbarium material), membranous, enclosed by calyx; seeds 2 to 4, subglobose, carinate with prominent hilum, black, glabrous.

GENERAL DISTRIBUTION: Lesser Antilles, Virgin Islands, Marianas Islands (Micronesia); cultivated in Hispaniola (perhaps escaped), Puerto Rico, Surinam.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts, Antigua, Saba!, St. Eustatius! (cultivated), Guadeloupe, Martinique!.

COMMON NAMES: Hoofdpijnblad, liane blanche, liane d'argent, liane serpent, liane bord de mer.

NOTES: An extensive vine or liana, usually cultivated in the West Indies, but seemingly escaped on a few islands in the Lesser Antilles. Once considered a distinct species, we now recognize it as a robust variety of the ubiquitous Old World *O. turpethum* (L.) A. Silva Manso, probably the result of artificial selection. The plants cultivated in the West Indies were then reintroduced into the Pacific, where they now occur on the Marianas Islands. This population seems to have smaller flowers and larger, longer-persisting bracts than its Antillean progenitors (vide Fosberg & Sachet, Smithsonian Contr. Bot. **36:** 29. 1977; Staples & Austin, loc. cit.).

STICTOCARDIA H. Hallier

Stictocardia H. Hallier, Bot. Jahrb. Syst. **18:** 159. 1893.

Climbers, usually pubescent. Leaves ovate to orbicular, with minute glands on lower surface of blade, margin entire. Inflorescences axillary, with peduncles bearing 1 to many flowers; bracts small, caducous. Flowers with sepals ± equal, apex rounded; corolla large, funnelform, pink, red, or purple; stamens and pistil included, pollen spinose. Fruits indehiscent, 4-celled, completely surrounded by enlarged, coarse calyx; seeds 4, brown, pubescent, freed by disintegration of calyx and pericarp.

TYPE: *Stictocardia tiliifolia* (Desr.) H. Hallier.

An Asian and African genus that is distinctive for its bird-pollinated flowers. One species has been widely introduced into the Neotropics, and has become established on several islands in the West Indies. The correct specific name for this taxon has recently been discussed by Gunn (Brittonia **24:** 169-176. 1972) and by Austin, Powell & Nicolson (Brittonia **30:** 195-198. 1978).

Stictocardia tiliifolia (Desr.) H. Hallier, Bot. Jahrb. Syst. **18:** 159. 1893 (as "tiliaefolia"). FIGURE 73.

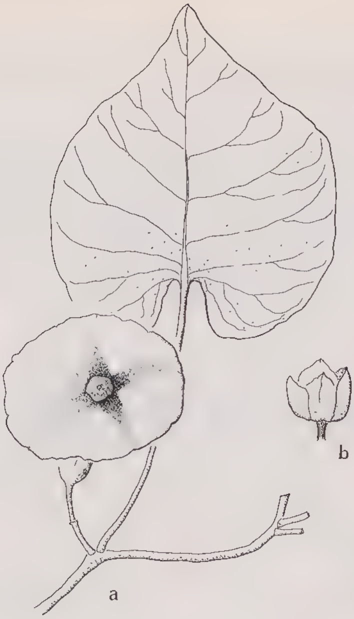
Basionym: *Convolvulus tiliaefolius* Desr. *in* Lam., Encycl. **3:** 544. 1792.
Type: Mauritius, *Commerson s.n.* (holotype, P-LA, n.v.; possibly IDC 6207. 465: I. 4, photo!).
Syn.: *Rivea campanulata* sensu House, Muhlenbergia **5:** 72. 1909.

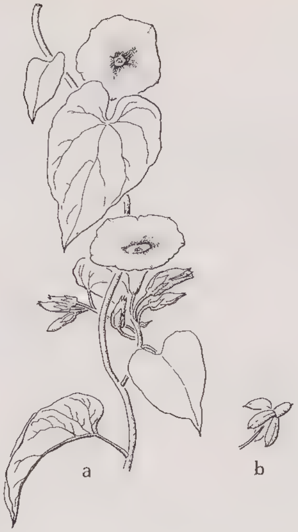
Stout climber, pubescent or glabrous. Leaves with petioles usually longer than blades; blades large, ovate to orbicular, to 17 cm long, base cordate but usually slightly cuneate within basal sinus, apex rounded to acuminate, margin entire, covered with numerous black or brown dots beneath (sometimes hidden by pubescence), pubescent at least along veins. Inflorescences with 1 or occasionally more flowers per peduncle; peduncles shorter than subtending petioles. Flowers with sepals ca. 1.5 cm long, unequal in width, outer 2 surrounding others, all rounded, subcoriaceous, with hyaline edges, pubescent or glabrous, with glands as on lower surface of leaf; corolla funnelform, ca. 9 cm long, rose-colored with purple center, interplicae bearing glands and with hairs at tip. Capsules ca. 2 cm high, beaked, 4-celled, indehiscent, chartaceous, brown, surrounded by coarser, much enlarged, spongy, conspicuously nerved sepals; seeds 4, brown, pubescent.

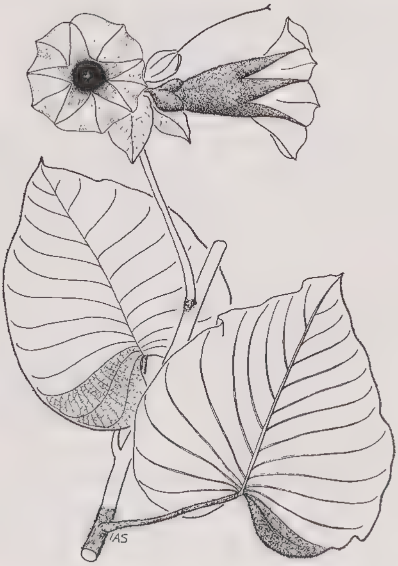
GENERAL DISTRIBUTION: Native in Asian tropics, this species is now established throughout the Old World and is introduced into the New World as well.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Eustatius, Montserrat!, Guadeloupe!, Marie Galante!, Dominica, Martinique!, St. Lucia!, St. Vincent!, Grenada, Barbados.

COMMON NAMES: Liane gros boudin, liane gros marron, bois-patate marron, gros boudin, liane d'argent bâtard.







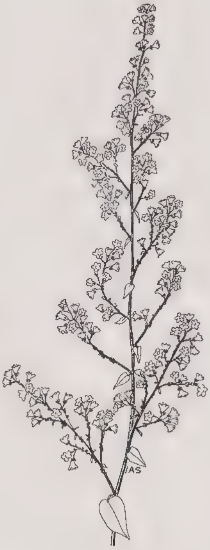


FIGURE 73 (upper left). *Stictocardia tiliifolia*: a, flowering shoot, × 0.4; b, fruit, × 0.4. FIGURE 74 (upper right). *Turbina corymbosa*: a, flowering shoot, × 0.4; b, fruit, × 0.4. FIGURE 75 (lower left). *Argyreia nervosa*: × 0.4. FIGURE 76 (lower right). *Poranopsis paniculata*: × 0.4.

NOTE: *Ipomoea campanulata* L., based on "Adamboe" illustration in Rheede (Hort. Malab. **11:** 115, *t. 56.* 1692), has often been confused with this *Stictocardia*, but the illustration shows a plant in which the flowers are not usually solitary, the corolla is lobed, the venation is of a different pattern, and the fruit appears to be dehiscent.

TURBINA Raf.

Turbina Raf., Fl. Tellur. **4:** 81. 1838.

Climbers, glabrous or pubescent. Leaves cordate with margins entire. Inflorescences axillary. Flowers with corolla funnelform or salverform; pollen spinose, pantoporate; ovary bilocular, ovules 4, style 1, stigma biglobose. Fruits indehiscent capsules, breaking free from base, with accrescent sepals spreading at maturity, only 1 seed usually developing; seed ovoid, brownish, puberulent with short, erect trichomes.

TYPE: *Turbina corymbosa* (L.) Raf.

A genus of some 12 to 15 species distributed in the Neotropics and Africa, and introduced into Asia. The indehiscent fruits characterize the genus, which in other respects is very similar to *Ipomoea.*

Turbina corymbosa (L.) Raf., Fl. Tellur. **4:** 81. 1838. FIGURE 74.

Basionym: *Convolvulus corymbosus* L., Syst. Nat. ed. 10, **2:** 923. 1759.
Type: Plum., Pl. Amer. 78, *t. 89, fig. 2.* 1756; vide Stearn, Cuad. Bot. Canar. **21:** 5-12. 1974.

Perennial climber, mainly on low bushes, glabrous or minutely pubescent; stems green and terete when young, becoming gray and tending to have flattened sides with age. Leaves with petioles slender, usually shorter than blades; blades cordate, to 8 cm long, apex obtuse to acuminate, margin entire, often gland-dotted. Inflorescences cymose, more or less corymbose with peduncles borne on main stem and secund on short branches; bracts small, caducous. Flowers with young buds conical; sepals arising sharply from flattened base, elliptic, inner 3 ca. 1 cm long, outer 2 much shorter, mucronate, green and thickened at base, thickness decreasing toward apex, margin scarious; corolla funnelform, 2.5-3 cm long, white with dark red or purple center. Capsules ellipsoid, 8-10 mm long, thin-walled, beaked by thickened style base topped by short filamentous portion, sitting in distinct disc, brown, smooth, septum pushed to one side, dried fruit breaking away open-ended at base, the wall subsequently splitting irregularly, calyx persisting, outspread and stiff even after fruit is shed; seed(s) 1 (or 2), brown, pubescent.

GENERAL DISTRIBUTION: Tropical America; introduced and naturalized in parts of the Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Antigua!, Nevis!, Montserrat!, Guadeloupe!, Martinique, St. Lucia!, Barbados!.

COMMON NAME: Christmas wreath.

NOTE: Because it blooms profusely in winter, about Christmastime, the plant is emblematic of the holiday season in the tropics.

CULTIVATED SPECIES

Argyreia nervosa (Burman f.) Bojer, Hortus Maurit. 224. 1837.
FIGURE 75.

Basionym: *Convolvulus nervosus* Burman f., Fl. Indica 48, *t. 20. fig. 1.* 1768.
Type: India, *Roxburgh s.n.* (holotype, ?G-DEL; isotype, K).
Syn.: *Argyreia speciosa* (L. f.) Sweet, Hort. Brit. ed. 1, **2:** 289. 1826. (Type: LINN 218.23).
Argyreia bracteata Choisy sensu Griseb., Fl. Brit. W. Ind. Is. 466. 1862; and Urban, Symb. Antill. **4:** 515. 1910, and **8:** 573. 1921.

Lianas; stems herbaceous distally, woody near base, younger branches, petioles, peduncles, and pedicels densely white-sericeous, glabrescent with age. Leaves cordate, 18-27 cm long, almost as wide, base evenly cordate or obtuse with lobes unequal, apex acute to obtuse, mucronate, margin entire, glabrous or at least glabrate above, densely white-sericeous to lanate beneath. Inflorescences cymose, usually 3-to 6-flowered; peduncles equalling petioles, 10-15 cm long; bracts foliaceous, 7-8 × 1.5-2 cm, base obtuse, apex acuminate, mostly sparsely sericeous. Flowers with pedicels 7-10 mm long; sepals ovate to broadly ovate, 1.5-2 cm long, apex mostly obtuse, white-sericeous; corolla funnelform, 6-6.5 cm long, tube cylindrical, 4-5 cm wide, darker than limb, the limb flaring above tube, 7-8 cm wide, lavender, pubescent without on tube and interplicae. Fruits subglobose, 1-1.5 × 1-1.5 cm, indehiscent, dry-baccate, brown, with ± mealy pulp within epicarp; seeds 1 to 4, broadly ovoid, 8-10 mm long, dark to light brown, puberulent.

GENERAL DISTRIBUTION: Native to India but now widespread in the tropics through cultivation as an ornamental.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, St. Lucia!, Barbados.

COMMON NAMES: Liane d'argent, liane à tonnelle, liane de soie, liane à von-von, elephant climber.

NOTES: This large, woody vine or liana is cultivated for its showy flowers. The seeds contain ergot alkaloids similar to those of *Turbina corymbosa* and *Ipomoea tricolor*, but no records of their use by man are extant.

Poranopsis paniculata (Roxb.) Roberty, Candollea **14:** 26. 1952.
FIGURE 76.

Basionym: *Porana paniculata* Roxb., Pl. Coromandel **3:** 31, *t. 235.* 1815.
Type: Not designated.

Lianas; stems herbaceous near tips, woody near base, to several centimeters in diameter, gray tomentellous, glabrescent with age. Leaves with petioles 5-30 mm long; blades ovate to broadly ovate, 4-10 × 2-7 cm, base cordate, apex obtuse, acute, acuminate to abruptly cuspidate, palmately nerved with 5 to 7 secondary veins arising near base, tomentellous on both surfaces, glabrescent. Inflorescences lateral or terminal, thyrsiform, subtended by foliaceous bract; lateral branches usually white-tomentose, each subtended by foliaceous bracteole. Flowers with sepals linear, 1-2 mm long, tomentose; corolla funnelform, 5-6 mm long, limb shallowly lobed, white, glabrous, scented; stamens subequal, included, pollen 3-colpate, smooth; ovary globose to ovoid, 1-2 mm long, stigma biglobose, subsessile. Fruits (rarely produced in the New World) ovoid, 4-5 mm long, indehiscent, 1-seeded, with outer 3 sepals accrescent and squarrose; seed ellipsoid, smooth, glabrous.

GENERAL DISTRIBUTION: Native to India but widely dispersed in the tropics as an ornamental vine.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts!, St. Eustatius, St. Kitts!, Guadeloupe!, Martinique!, St. Lucia!, Grenada!, Barbados.

COMMON NAMES: Chinese lace, white coralita, white coralilla, muguet.

NOTES: The large masses of small, fragrant flowers present an impressive display around Christmastime. Fruits are rarely produced as there seem to be no pollinators suited to this introduced species.

HYDROPHYLLACEAE R. Brown

HYDROPHYLLACEAE R. Brown, Bot. Reg. **3**: sub *t. 242.* 1817.

Annual or perennial herbs, sometimes spiny, usually hairy or scabrid. Leaves exstipulate, alternate, often in basal rosettes, entire to pinnately or palmately lobed. Flowers perfect, actinomorphic, in axillary cymes or solitary; sepals 5, connate or almost free, imbricate; corolla sympetalous, rotate, campanulate or infundibuliform, 5-lobed; stamens 5, epipetalous, alternate with corolla lobes; ovary superior, 1-locular with 2 large parietal placentae, ovules numerous, styles 1 or 2. Fruit usually a loculicidal capsule; seeds sculptured.

TYPE: *Hydrophyllum* L.

A family of 18 genera and 250 species, cosmopolitan excluding Australia.

KEY TO THE GENERA

Plants erect, spiny; corolla bright blue . . . . *Hydrolea*
Plants with prostrate branches, not spiny; corolla white or purplish . . . . . . *Nama*

HYDROLEA L.

Hydrolea L., Sp. Pl. ed. 2, **1:** 328. 1762, nom. cons.

Herbs or subshrubs, spiny, and with glandular hairs. Leaves entire. Flowers in compact cymes or short racemes at ends of branches; sepals lanceolate; corolla campanulate to rotate, the lobes imbricate; stamens inserted at base of corolla tube, filaments dilated at the base; ovary 2-celled, ovules numerous, styles 2. Capsule globose or ovoid, placentae large, seeds longitudinally rugose or striate.

TYPE: *Hydrolea spinosa* L.

A genus of 20 species of tropical America, Africa and Asia. For further information see L. J. Davenport, Rhodora **90:** 169-208. 1988.

Hydrolea spinosa L., Sp. Pl. ed. 2, **1:** 328. 1762. FIGURE 77.

Type: Not determined by Davenport.
Syn.: *Nama spinosa* (L.) Kuntze, Rev. Gen. Pl. 435. 1891.

Woody herb with a creeping main stem and upright branches to 1.3 m tall, viscid pubescent, stem spines to 1.3 cm long. Petioles 1-3 mm. Leaves elliptic-lanceolate or lanceolate, 2.5-5 × 0.5-3 cm, base cuneate, apex acute, entire; sepals lanceolate, acute, 5-9 mm long, glandular-pubescent; corolla bright blue, campanulate, 1.5 cm long and in diameter, lobes rounded. Capsule globose or ovoid, to 6-8 mm long, equaled by persistent calyx; seeds flattened, 0.7 mm long.

GENERAL DISTRIBUTION: Cuba, Jamaica, Mexico, Central America, Trinidad, South America south to Paraguay.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, St. Vincent!.

NOTES: Anderson reported that he brought seeds of this plant to St. Vincent from the wet savannas of Trinidad and that it spread itself by seeds in all water runs in and near the Garden. A Guilding collection (K!) was probably of this introduction. Grisebach reported an Imray (K) collection from Dominica. The only recent collection is *Hodge 2503*, made in 1940, in Dominica.

NAMA L.

Nama L., Syst., ed. 10, **2:** 950. 1759, nom. cons.

Syn.: *Marilaundium* Kuntze, Rev. Gen. **2:** 434. 1891. (Type: *Nama* L.)

Much-branched annual plants with prostrate stems. Leaves alternate, entire. Flowers sessile in leaf axils; calyx 5-cleft; corolla infundibuliform, 5-lobed, lobes imbricate; stamens included, epipetalous; ovary 1-celled; ovules numerous. Fruit a 2-valved capsule.

Type: *Nama jamaicensis* L.

A genus of 40-50 species of southwestern United States to South America.

Nama jamaicensis L., Syst. Nat., ed. 10, **2:** 950. 1759. Figure 78.

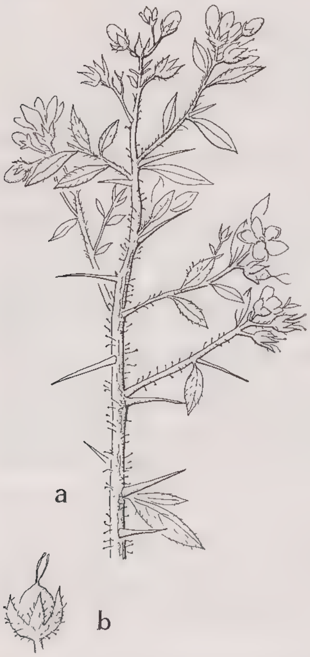
Type: Browne, Civ. Nat. Hist. Jamaica *t. 18, f. 2.*
Syn.: *Marilaundium jamaicense* (L.) Ktze., Rev. Gen. **2:** 434. 1891.

Annual herb, much branched with prostrate stems, to 20 cm long. Leaves obovate, 1-5 × 0.5-1.5 cm, base cuneate and decurrent to a sessile base, apex obtuse, apiculate. Flowers solitary or in pairs, pedicels to 6 mm; calyx segments linear, 6-8 mm long, hirsute; corolla infundibuliform, as long as calyx, white or purplish, lobes broad. Capsule oblong, slightly exceeding the calyx.

General Distribution: Florida to Texas, Greater Antilles, Mexico, Central America, Venezuela.

Distribution in Lesser Antilles: St. Barts, Barbuda!, Antigua!, St. Eustatius, St. Kitts, Montserrat!, Guadeloupe!, Martinique!, the Grenadines!, Barbados.

Common name: Herbe couchée.



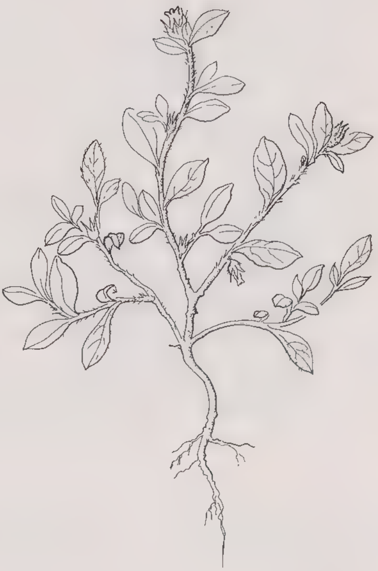


Figure 77 (left). *Hydrolea spinosa*: a, flowering shoot, × 0.4; b, fruit × 0.4. Figure 78 (right). *Nama jamaicensis*: × 0.4.

BORAGINACEAE A. L. Juss., Gen. Pl. 128. 1789.

Herbs, shrubs, trees or climbers without tendrils. Exstipulate, leaves alternate. Inflorescence a simple or branched cincinnis, panicle, spike, or raceme, terminal, axillary or extra-axillary. Flowers perfect, often heterostylous, or unisexual, actinomorphic, hypogynous, 5-merous; calyx imbricate or valvate; corolla infundibuliform, salverform, subrotate or tubular; stamens epipetalous; disk present or absent, ovary simple or lobed, style gynobasic or terminal, simple or once- or twice-branched, ovules 1 in each locule. Fruit of four 1-seeded nutlets, or drupaceous.

TYPE: *Borago* L.

A family of 156 genera and 2500 species occurring worldwide. Four subfamilies are clearly recognized and by some accepted as families. For further information see I. M. Johnston, J. Arnold Arbor. 30: 111- 138. 1949.

KEY TO THE GENERA

1. Style twice-branched, stigmas 4; trees or shrubs .... *Cordia*
1. Style simple or once-cleft, stigmas one or two.
    2. Inflorescence of scorpioid unilateral cymes.
        3. Fruit with fleshy mesocarp and 2 to 4 stones; shrubs, vines or trees.
            4. Erect coastal shrubs; leaves narrowly oblanceolate, sessile, silvery pubescent; fruit hollowed at the base .... *Argusia*
            4. Climbing or scrambling plants, rarely trees; leaves petiolate; fruit not hollow at base .... *Tournefortia*
        3. Herbs or low shrubs; fruit separating into 2 to 4 nutlets .. *Heliotropium*
    2. Inflorescence fascicled or flowers single, racemose, or paniculate.
        5. Herbs; inflorescence racemose, flowers long-pediceled, blue, anthers connivent; fruit of 4 nutlets .... *Trichodesma*
        5. Shrubs or small trees; inflorescence fascicled or paniculate, flowers white, anthers free; fruit drupaceous.
            6. Unarmed trees or shrubs; leaves not on short shoots; inflorescence paniculate, corolla salverform .... *Bourreria*
            6. Shrubs, axillary branches modified to short spines; flowers axillary in fascicles or single, corolla subrotate; leaves clustered on short shoots .... *Rochefortia*

CULTIVATED TAXA

Ehretia microphylla Lam. Known from one plant currently cultivated in St. Lucia. *Symphytum asperum* Lepechin was cultivated in the St. Pierre Botanic Garden while *S. officinale* L. has been collected recently from gardens on Martinique and St. Lucia.

ARGUSIA Amman ex Boehmer

Argusia Amman ex Boehmer *in* Ludwig, Defin. Gen. Pl. ed. 3, 507. 1760.

Syn.: *Messerschmidia* L. ex Hebenstr., Novi Comment. Acad. Sci. Imp. Petrop. **8:** 315. 1763. (Type: Not designated.)
Mallotonia (Griseb.) Britton, Ann. Missouri Bot. Gard. **2:** 47. 1915. (Type: *Heliotropium gnaphalodes* L. = *Mallotonia gnaphalodes* (L.) Britton.)

Shrubs or small trees. Leaves alternate, subsessile. Inflorescences dense capitate scorpioid cymes or spikes; calyx 5- parted; corolla salverform, tube short, lobes spreading valvate; stamens 5, borne on the corolla tube, included, filaments very short or wanting; ovary 4-celled, stigma sessile, annular, conical above. Fruit fleshy drupe becoming dry and bony, ovoid, conical, hollowed at the base, separating into 2 nutlets with corky exocarp.

TYPE: *Tournefortia sibirica* L. = *Argusia sibirica* (L.) Dandy.

A genus of 3 species of Europe to Japan with one holotropical. For further information see I. M. Johnston, J. Arnold Arbor. **16:** 165. 1935, **30:** 130. 1949, and G. R. Proctor, J. Arnold Arbor. **63:** 294-295. 1982.

Argusia gnaphalodes (L.) Heine, Fl. Nouv. Caléd. **7:** 108. 1976.
FIGURE: 79.

Basionym: *Heliotropium gnaphalodes* L., Syst. Nat. ed. 10, **2:** 913. 1759.
Type: Barbados, Pluk. Phyt. 193, *f. 5.*
Syn.: *Tournefortia gnaphalodes* (L.) R. Br. ex Roemer & Schultes, Syst. Veg. **4:** 538. 1819.
Messerschmidia gnaphalodes (L.) I. M. Johnston, J. Arnold Arbor. **16:** 165. 1935.

Erect, much-branched coastal shrub, to 2 m tall, all parts silky pubescent. Leaves subsessile or without distinct petioles, linear- spatulate, 4-8 × 0.5-1 cm, base cuneate or tapering, apex rounded, broadest just below the apex, somewhat succulent, silky-pubescent. Inflorescence a branched cyme, flowers closely grouped; peduncle 3-5 cm long; calyx lobes broadly ovate, 3-5 mm long, glabrous inside, woolly pubescent outside; corolla to 6 mm long, tube short green at the base, white above, woolly inside, lobes oblong, 4 × 3 mm; stamens sessile on the tube, pistil ovoid, glabrous, stigma sessile, annular, conical above. Fruit ovoid or subglobose, 5-7 mm in diameter, eventually breaking into two 2-seeded spongy or corky black nutlets.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin, St. Barts!, Barbuda!, Antigua!, Saba, St. Eustatius, Montserrat!, Guadeloupe!, La Désirade!, Les Saintes!, Dominica!, Martinique!, St. Vincent!, the Grenadines!, Barbados!.

COMMON NAMES: Sea lavender, sea rosemary, rosmarin, loup marin, bois de lance noir.

NOTE: The St. Vincent record is based on an Anderson specimen which he said he grew from his own introduction from Barbados.

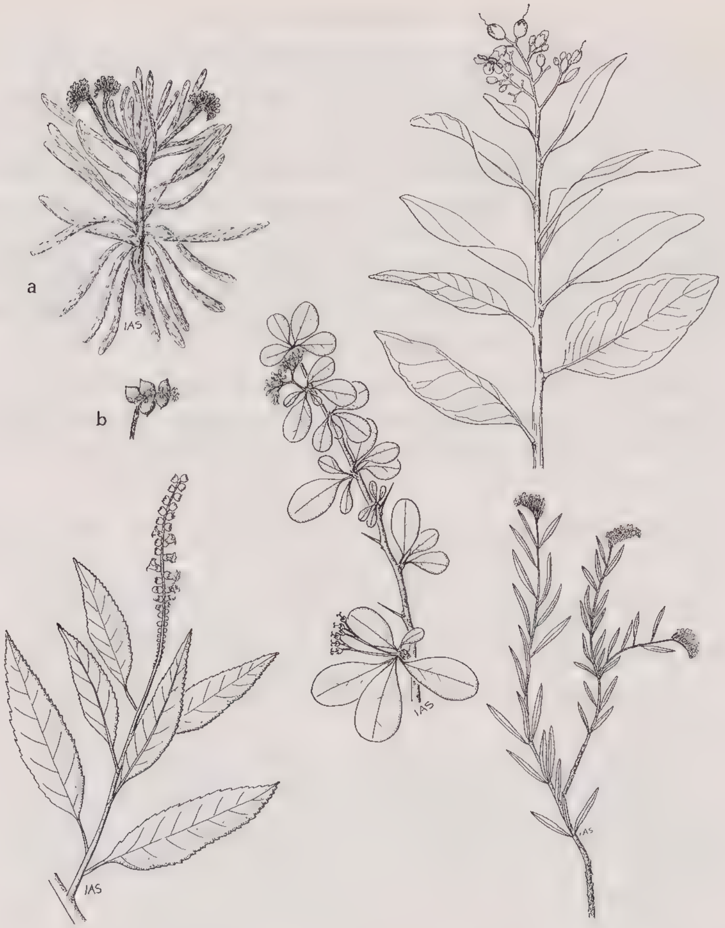


Figure 79 (upper left). *Argusia gnaphalodes*: a, flowering shoot, × 0.33; b, fruit, × 0.33. Figure 80. (upper right). *Bourreria succulenta*: × 0.33. Figure 81 (lower left). *Cordia curassavica*: × 0.33. Figure 82 (lower right). *Heliotropium ternatum*: × 0.33. Figure 83 (center). *Rochefortia spinosa*: × 0.33.

BOURRERIA P. Browne

Bourreria P. Browne, Civ. Nat. Hist. Jamaica 168. 1756, nom. cons.

Syn.: *Beurreria* Jacq., Select. Stirp. Amer. Hist. 44. 1763, orth. var.

Shrubs or small trees. Leaves petiolate, entire. Inflorescence corymbiform or paniculate cymes; calyx closed in bud, 2- to 5-lobed; corolla salverform, 5-lobed; stamens exserted, filaments glabrous or pubescent; ovary lobed, style cleft or united, stigmas 2. Fruit drupe with 4 stones.

TYPE: *Bourreria succulenta* Jacq.

A genus of 50 species of tropical America. For further information see W. T. Stearn, J. Arnold Arbor. **52:** 619. 1972.

CULTIVATED TAXA

Bourreria cumanensis (Loefl.) O. Schulz. Johnston (l.c. 128) suspected the Guilding specimen from St. Vincent (K!) was from a cultivated plant. Anderson recorded in his unpublished Hortus that seeds of this plant were brought from the Spanish Main by his associate Lochhead. Anderson recognized it as new and named it in honor of the Secretary of War William Windham but the name was never published. Miers (Contr. **2:** 246, *t. 87.* 1869) described the Guilding specimen as *Crematomia guildingiana.* Anderson also had under cultivation *Bourreria ovata* Miers which he obtained from the Bahamas. Neither species has persisted on St. Vincent.

Bourreria succulenta Jacq., Enum. Syst. Pl. 14. 1760. FIGURE 80.

Lectotype: Curaçao, Jacquin, Obs. Bot. *t. 26.*
Syn.: *Bourreria recurva* Miers, Contr. **2:** 234. 1869. (Type: Dominica, Herb. Hook., no collector cited.)

Shrub or small tree to 6 m, glabrous. Petioles 5-15 mm; blades lanceolate, oblong-elliptic, ovate-oblong or obovate-oblong, 5-15 × 4-7 cm, base obtuse to cuneate, apex acute, membranaceous. Inflorescence terminal and axillary; calyx campanulate 4-5 mm long, lobes deltoid or triangular, 2 mm long but irregular; corolla tube 6 mm long, lobes rounded, 4.5 mm long, 6 mm wide, reflexed, white; stamens exserted; style 8 mm long. Fruit ovoid, 6-12 mm in diameter, yellow to red, with flaring calyx.

GENERAL DISTRIBUTION: Florida, Bahamas, Greater Antilles, Trinidad, and Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, The Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Cherry, chink, bambora, bodywood, café marron, bois cassare, bombon rouge, acomat-coélette, bois-cabrit, cotlette.

CORDIA L.

Cordia L., Sp. Pl. **1:** 190. 1753.

Syn.: *Varronia* P. Browne, Civ. Nat. Hist. Jamaica 172. 1756. (Type: *Varronia corymbosa* (L.) Desv.)
Sebesten Adans., Fam. Pl. **2:** 177. 1763. (Lectotype: *Sebesten sebestena* (L.) Britton.)

Cerdana Ruíz & Pavón, Fl. Peruv. Prodr. **2:** 47. 1799. (Type: *Cerdana alliodora* Ruíz & Pavón.)

Calyptracordia Britton *in* Britton & P. Wilson, Bot. Porto Rico **6:** 123. 1925. (Type: *Calyptracordia alba* (Jacq.) Britton.)

Trees or shrubs. Leaves petiolate, alternate. Inflorescence paniculate cymes, compact subglobose cymes, or spikes; flowers perfect, regular, often heterostylic; calyx 5-toothed or 5- to 10-lobed, campanulate to tubular, opening regularly or irregularly, usually persistent and sometimes inflated or fleshy; corollas infundibuliform to subrotate, 5-lobed; stamens 5, included or exserted; ovary 4-celled, ovules 1 to 4, style terminal, 2-lobed or branched, exserted or included, stigma 4. Fruit drupaceous, not lobed, 1- to 4-celled, included in expanded, sometimes fleshy calyx or subtended by an expanded calyx.

LECTOTYPE: *Cordia myxa* L., vide N. L. Britton, N. Amer. Trees 1908.

A genus of 250 species of tropical areas. There is considerable merit to the recognition of the segregate genera listed above in synonymy. For further information see N. Taroda and P. Gibbs, Revta. brasil. Bot. **9:** 31-42. 1986.

CULTIVATED TAXA

Cordia africana Lam. was once cultivated in the St. Pierre Botanic Garden as *Cordia abyssinica* R. Br.

Cordia amplifolia A. DC. Represented by *Duss 284* was collected in the Botanic Garden of St. Pierre in 1883. Duss reported that the plant was spreading as an escape in the countryside. The only specimen seen (NY) is better referred to *Cordia africana* Lam.

Cordia angustifolia (Willd.) R. & S. was recorded by Velez (1957) from the Lesser Antilles on the basis of his own collections and the reports of Stehlé. These can not be verified.

Cordia bicolor A. DC. Johnston (J. Arnold Arb. **30:** 124. 1949) suspected that the Anderson specimen he cited (K) from St. Vincent was from a cultivated plant.

Cordia mirabiloides (Jacq.) R. & S. Represented by *Duss 283* was cultivated in the St. Pierre Botanic Garden as an introduction from Haiti.

Cordia subcordata Lam. was cultivated in the St. Vincent Botanic Garden as *Cordia dichotoma* Forst. from plants introduced by Captain Bligh in 1793.

Cordia tetrandra Aublet. Recorded from Barbados by Johnston (J. Arnold Arb. **30:** 123. 1949) based on *Bovell 437* (NY). Johnston suggested the plant might have been under cultivation. The taxon is not recorded by Gooding et al. and has not been recollected.

KEY TO THE SPECIES

1. Inflorescence unbranched, spicate or globose.
    2. Inflorescence globose; sepals setaceous...................... *C. globosa*
    2. Inflorescence spicate; sepals triangular, mucronate or acute.

3. Corolla limb subentire, lobes broader than long; calyx lobes distinct in bud with slightly prolonged tips; fruit within the subinflated calyx .... *C. martinicensis*
3. Corolla with distinct lobes as broad as long; calyx lobes without distinct prolonged tips; fruit protruding from cup-shaped calyx.
    4. Leaves lanceolate to lance-ovate, broadest at or below the middle, apices acute .... *C. curassavica*
    4. Leaves oblong, broadest at or above the middle, apices rounded .... *C. divaricata*

1. Inflorescence corymbiform-cymose, branched and spreading.
    5. Leaf margin serrate or dentate, at least above the middle.
        6. Fruit white, subtended by cup-shaped calyx; inflorescence divaricate and spreading .... *C. dentata*
        6. Fruit red or red-purple, enclosed in enlarged calyx.
            7. Inflorescence axillary, flowers in small spherical clusters .... *C. polycephala*
            7. Inflorescence terminal, flowers in short scorpioid cymes or subcapitate .... *C. nesophila*
    5. Leaf margin entire.
        8. Calyx and corolla persistent, enveloping slender elongated fruit; calyx noticeably 10-ribbed .... *C. alliodora*
        8. Corolla withering and deciduous; calyx not noticeably 10-ribbed.
            9. Fruit enclosed in fleshy white calyx; flowers heterostylic, corolla red or orange, salverform, 4 cm long .... *C. sebestena*
            9. Fruit subtended by expanded membranaceous or coriaceous calyx.
                10. Leaves glabrous.
                    11. Calyx pubescent; leaves oblong-elliptic, apex short-acuminate, shiny; fruit white .... *C. reticulata*
                    11. Calyx glabrous.
                        12. Leaves obovate; fruit globose, red .... *C. collococca*
                        12. Leaves ovate or orbicular; fruit ovoid, pointed, white .... *C. obliqua*
                10. Leaves pubescent, elliptic-oblong; fruit white .... *C. sulcata*

Cordia alliodora (Ruíz & Pavón) Oken, All. Naturgeschichte Bot. **3:** 1098. 1841.

Basionym: *Cerdana alliodora* Ruíz & Pavón, Fl. Peruv. Prodr. **2:** 47, *t. 184.* 1799.
Type: Peru, *Ruíz & Pavón s.n.* (holotype, B, destroyed.)
Syn.: *Cordia gerascanthus* sensu Griseb. not L.
Syn.: *Cordia gerascanthus* L. forma *martinicensis* Chodat, Bull. Soc. Bot. Genève, sér. 2, **12:** 210. 1950. (Type: Martinique, *Hahn 626.*)
Cordia gerascanthus L. var. *subcanescens* DC., Prodr. **9:** 472. 1845. (Type: Trinidad, *Sieber 121.*)

Tree to 18 m tall, young branches, petioles and inflorescences with stellate pubescence. Petioles 1-3 cm; blades narrowly oblong to elliptic, 8-20 × 3-7 cm, base acute or obtuse, apex acuminate. Inflorescence terminal, panicle, widely branched, bracteate, flowers crowded at ends; calyx cylindrical, 4.5-6 mm long, shortly 5-toothed with teeth 0.5 cm long, 10-ribbed, gray stellate-pubescent; corolla salverform, tube 3-5 mm long, lobes oblong 5-8

× 3-4 mm, white, drying brown and persistent. Fruit cylindrical-fusiform, 5 mm long, dry, enclosed by persistent calyx and corolla.

General distribution: Cuba, Hispaniola, Puerto Rico, Mexico, Central America, northern South America.

Distribution in Lesser Antilles: Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

Common names: Spruce, cypre, bois de rose, bois cypre.

Note: The combination attributed to Chamisso (1838) was implied but not made.

Cordia collococca L., Sandmark, Fl. Jam. 14. 1760; Amoen. Acad. **5:** 377. 1760.

Type: Jamaica, linn 253.8.

Tree to 10 m tall. Petioles 1.5-2 cm long, blades ovate to elliptic, 6-17 × 3-9 cm, base cuneate, apex short-acuminate to rounded, or apiculate, margin slightly undulate, upper surface glabrous and shining, lower surface short-pubescent. Inflorescence terminal, cymes corymbiform, loose, brown strigose pubescent; flowers dimorphic, functionally staminate or pistillate; calyx globose in bud, pubescent, splitting irregularly; corolla tube 2-3 mm long, lobes oblong, 3 × 1 mm, white, reflexed; stamens exserted in staminate flowers, anthers rudimentary in pistillate flowers; pistil ovoid, 2-3 mm in diameter, styles united 1 mm, free for 1.5-2 mm, pistillode smaller with styles 1-1.3 mm long. Drupe globose or depressed globose, 1 cm in diameter, bright red, subtending calyx not enlarged.

General distribution: Cuba, Mexico, Central America, northern South America.

Distribution in Lesser Antilles: St. Barts, Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, The Grenadines!, Grenada!, Barbados!.

Common names: Sip, Slip, clammy cherry, bonbon blanc, mapou-rivière, mahot bré.

Cordia curassavica (Jacq.) Roemer & Schultes, Syst. Veg. **4:** 460. 1819. Figure 81.

Basionym: *Varronia curassavica* Jacq., Enum. Syst. Pl. 14. 1760.
Type: Curaçao, no specimens known.
Syn.: *Cordia cylindristachys* Roemer & Schultes var. *interrupta* (DC.) Griseb., Fl. Brit. W. Indian Is. 480. 1861.
Cordia cylindristachya Roemer & Schultes var. *cinerascens* (DC.) Griseb., Fl. Brit. W. Indian Is. 480. 1861, p.p.

Shrub 1-2.5 m tall, branches with stiff curved hairs. Petioles 5-6 mm long, blades lanceolate, ovate, or oblong-ovate, 7-15 × 3-5 cm, base tapering to petiole, apex acute, margins serrate, upper surface roughened with short stiff hairs or their persistent bases, lower surface paler, softer pubescent. Inflorescence terminal, scorpioid spikes maturing basipetally, peduncle 1-2 cm long, spikes 4-10 cm long; calyx 4-5 mm long, lobes triangular, 1-1.5 mm long, finely pubescent or papillose; corolla tubular, 4-5 mm long, white, weakly 5-lobed, the lobes 2 × 2 mm, erose, reflexed. Drupe globose, invested by calyx, 5 mm in diameter, red.

GENERAL DISTRIBUTION: Central America, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, The Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Black sage, wild sage, mahot noir.

Cordia dentata Poiret *in* Lam., Encycl. **7:** 48. 1806.

Type: Curaçao, *von Rohr s.n.* (holotype, P-Juss.)
Syn.: *Varronia alba* Jacq., Enum. Syst. Pl. 14. 1760; Select. Stirp. Amer. Hist. 41. 1763. (Type: See Notes.)
Cordia alba (Jacq.) Roemer & Schultes, Syst. Veg. **4:** 466. 1819.

Tree to 25 m, branches coarsely pubescent. Petioles 1-2 cm long; blades broadly elliptic to orbicular, 4-12 × 4-7 cm, base rounded, apex rounded to abruptly short-acute, upper surface slightly scabrous with stiff hairs, lower surface glabrate, margin irregularly toothed. Inflorescence terminal, cymose-scorpioid, peduncle 4-5 cm long, pubescent; calyx turbinate, 3 mm long, 10-ribbed, 3-lobed, strigose- pubescent; corolla tube 3-4 mm, limb spreading, shallowly 5-lobed, lobes 4-6 mm long, white. Drupe ellipsoid, 1 cm in diameter, white, flesh gelatinous, endocarp bony.

GENERAL DISTRIBUTION: Greater Antilles, Trinidad, and northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Barbuda!, Antigua!, Guadeloupe!, Marie Galante!, Grenada!, Barbados!.

COMMON NAMES: Arbre à raisins, bois-zizi, arbre à glu, mapou blanc, mahot blanc, mapou baril.

NOTES: Jacquin (Enum. Syst Pl. 14. 1760) described this species as *Varronia alba* citing a reference to Commelin *t. 80.* Subsequently (Select. Stirp. Amer. Hist. 41. 1763) he repeated the reference and enlarged the description, which clearly refers to this plant. Jacquin did not illustrate the plant, nor are any of his collections known that might otherwise typify it. In 1940 Johnston (J. Arnold Arbor. **21:** 347-349. 1940) implicitly typified the name *Varronia alba* with the Commelin plate, which is not a *Cordia*, and at the same time accepted the later *Cordia dentata* Poiret as the correct name. Wijnands (Botany of the Commelins 199. 1983) discussed the Commelin description, accepted Johnston's suggestion of typification, and in Taxon (**34:**

310. 1985) proposed to reject the Commelin binomial. The Committee on Spermatophytes rejected this proposal (Taxon **37:** 445. 1988).

Cordia divaricata Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **3:** 74. 1818.

Type: Cumana, *Humboldt & Bonpland s.n.*

Shrub to 2 m. Petioles 2-5 mm long, blades oblanceolate to obovate, 1.5-5 × 0.7-1.5 cm, base attenuate, apex rounded, margin crenate, upper surface with soft-tomentose hairs. Inflorescence terminal spicate, 8 cm long, peduncle 1-1.5 cm long; calyx campanulate, 2 mm long, lobes triangular, 0.5 mm long, sparsely strigose and with glistening glands; corolla tube 3-4 mm long, lobes broader than long, 1.5 mm long, white, reflexed. Drupe ovoid, 2-2.5 mm in diameter, red, frequently asymmetrical through abortion of seeds, calyx investing half of fruit, slightly swollen.

GENERAL DISTRIBUTION: Northern Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!.

NOTES: There appear to be no modern collections of this plant from northern South America. *Cordia cinerascens* DC., often listed as a synonym, is a Cuban species not found in the Lesser Antilles.

Cordia globosa (Jacq.) Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **3:** 76. 1818.

Basionym: *Varronia globosa* Jacq., Enum. Syst. Pl. 14. 1760.
Type: No specimens cited or since designated.
Syn.: *Varronia dasycephala* Desv., Jr. Bot. **1:** 274. 1808. (Type: "Cumana, Antigua.")
Cordia dasycephala (Desv.) Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. Sp. **3:** 76. 1818.
Cordia bullata (L.) Roemer & Schultes var. *angustata* DC., Prodr. **9:** 496. 1845. (Type: Cultivated plant from Guadeloupe, *Krauss s.n.*)

Shrub to 3 m, stems strigose, scabrous. Petioles 5-15 mm, blades lanceolate to ovate or elliptic, 2-14 × 1-6 cm, base cuneate, acute, obtuse or rounded, apex acute, margins serrate to dentate with acute irregular teeth, hairs of upper surface strigose, bulbous at the base. Inflorescence terminal, cymes appearing globular, 1-2 cm in diameter, peduncles 0.5-3 cm long; calyx cupular, 2-5 mm long, lobes triangular or oblanceolate, 1.5 mm long, each with filiform appendage 1-3 mm long, contorted and setaceous; corolla white, 5-9 mm long, tubular to infundibuliform, lobes 1 × 1 mm. Drupe red, 5-7 mm in diameter, almost completely enclosed in calyx.

GENERAL DISTRIBUTION: The typical variety is restricted to the Lesser Antilles, Trinidad and Venezuela. Var. *humilis* (Jacq.) Johnston occurs in Florida, Greater Antilles, Mexico and Central America.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Barbuda!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia, St. Vincent, the Grenadines!, Grenada!, Barbados.

COMMON NAMES: Wild black sage, bonbon rond, quérit-tout, herbe à borec.

NOTES: Juan Gaviria has annotated (1987) many Arnold Arboretum specimens previously called *Cordia globosa* as *Cordia bullata* ssp. *bullata* and ssp. *humilis*. No discussion has been published. Stearn (J. Arnold Arb. **52:** 631. 1971) accepted *Cordia bullata* (L.) Roemer & Schultes as an endemic species of Jamaica and he has been followed by Adams (1972).

Cordia martinicensis (Jacq.) Roemer & Schultes, Syst. Veg. **4:** 461. 1819.

Basionym: *Varronia martinicensis* Jacq., Enum. Syst. Pl. 14. 1760.
Type: Jacq., Select. Stirp. Amer. Hist. 41, *t. 32.* 1763.

Shrub to 5 m tall, all parts scabrous. Petioles 1-2.2 mm long, blades ovate 6-20 × 3-8 cm, base rounded to acute or cuneate, apex acuminate, margins unequally serrate, teeth very sharp, acute. Inflorescence terminal, spicate, 8-10 cm long, peduncles 3.4-4.5 cm long; calyx campanulate but inflated, 5 mm long, creamy white, lobes broadly triangular, usually with short but distinct subulate tips 1 mm long that are free in the bud, soft-pubescent; corolla white, tube 7-9 mm long, lobes short, rounded, 1 mm long, several times broader than long. Fruit red, subglobose, completely enclosed by subinflated calyx 5 mm in diameter.

GENERAL DISTRIBUTION: Restricted to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!, St. Lucia!.

COMMON NAMES: Black sage, mahot noir, ti bombon, maho nwe mahaut noir.

Cordia nesophila I. M. Johnston, J. Arnold Arbor. **37:** 289. 1956.

Type: Marie Galante, *Stehlé 2678* (holotype, GH!).
Syn.: *Cordia salvifolia* sensu recent authors, not Jussieu ex Poiret.

Shrub 1-3 m tall. Petioles 8-12 mm long, blades lanceolate to elliptic-lanceolate, 6-15 × 2-5 cm, base acute to rounded, apex acute to obtuse, margin bluntly dentate to dentate-crenate, upper surface scabrous, hairs with bulbous bases, lower surface densely pubescent with curved-strigose hairs. Inflorescence terminal, dichotomous-corymbiform-cymose, 3-6 cm wide, peduncle 2-2.5 cm; calyx campanulate, 3-4 mm long, lobes deltoid, strigose-pubescent; corolla white 4.5 mm long, lobes reflexed, erose, 2.3 × 2.3 mm, villose inside below staminal attachment, stamens included, style 2-2.5 mm. Drupe subglobose, 5 mm in diameter, red, mostly enclosed in calyx.

GENERAL DISTRIBUTION: Restricted to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade! Marie Galante!, Dominica!, Martinique!, St. Lucia!.

COMMON NAMES: Black sage, mapou rouge, bois de bré, mapou noir, mahot noir.

NOTES: Johnston (J. Arnold Arbor **37:** 289. 1956) located the type of *Cordia salvifolia* Jussieu and renamed the Lesser Antillean specimens previously called by this epithet.

Cordia obliqua Willd., Phytogr. 4, *t. 4, f. 1.* 1794.

Type: Malabar, *Klein s.n.* (B).
Syn.: *Cordia tremula* Griseb., Fl. Brit. W. Indian Is. 479. 1861. (Type: Barbados, *Lane.*)

Tree to 8 m, branches arching and subpendulous. Petioles 1-3 cm long; blades broadly elliptic, oblong or suborbicular, 4-7 × 3-6 cm, base rounded, apex rounded or short apiculate, margin entire near the base but undulate at the apex, upper surface glabrous, lower with axillary clusters of hairs. Cymes terminal, corymbiform, peduncles to 10 cm long; calyx obovate in bud, glabrous, 4 mm long, lobes triangular, 1-1.5 mm long, glabrous outside, sericeous inside; corolla tube 2 mm long, lobes oblong, 3 × 2 mm, reflexed, yellowish-white; stamens included; style exserted. Drupe ovoid to subglobose, 1-2 cm in diameter, pointed, pale orange-yellow, pulp mucilaginous, calyx flaring 1-1.5 cm in diameter, irregularly lobed.

GENERAL DISTRIBUTION: Native of India, widely introduced in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Gum, clammy cherry, sticky cherry, white manjack, coco chat, kaka poul.

NOTES: At various times many of the specimens seen had been annotated *Cordia myxa* or *Cordia dichotoma.* For further discussion of the application of those names see J. Hutchinson, Kew Bull. **1918:** 217. 1918, and I. M. Johnston, J. Arnold Arbor. **30:** 122. 1949.

Cordia polycephala (Lam.) I. M. Johnston, J. Arnold Arbor. **16:** 33. 1935.

Basionym: *Varronia polycephala* Lam., Tab. Encycl. **1:** 418. 1791.
Lectotype: Plukenet, Phytogr. *t. 328, f. 5.* 1691.
Syn.: *Lantana corymbosa* L., Sp. Pl. **2:** 628. 1753, non *Cordia corymbosa* Willd. ex Roemer & Schultes.
Varronia paniculata Wikström, K. Vet. Akad. Handl. **1827:** 59. 1828. (Type: Guadeloupe, *Forsström s.n.*, non *Cordia paniculata* Roemer & Schultes.)
Cordia wickstroemii Steudel, Nomencl. Bot. ed. 2, **1:** 419. 1841, nom. illegit. based on *V. paniculata* Wikstr.
Cordia sulfurata Krause, Beih. Centralbl. **32**(2): 341. 1914. (Type: St. Vincent, *Krause 11821.*)

Shrub, 2 m tall, branches often scandent. Petioles 3-10 mm long, blades lanceolate to ovate-elliptic, 8-10 × 2-6 cm, base narrowed or rounded, apex acute or acuminate, margin clearly dentate above, less so below the middle, upper surface strigose and scabrous with persistent swollen hair bases, lower surface lighter in color, tomentulose or strigose pubescent. Inflorescence axillary and terminal, simple or sparingly branched and paniculate with glomerate cymes, peduncle 1-10 cm long; calyx cupuliform, 2-4 mm long, lobes triangular, acute without prolonged tips, strigose; corolla tube 2.5-5 mm long, flaring, 4-5 mm in diameter, whitish-green, lobes rounded, often wider than long, entire. Drupe ovoid-globose, 4-5 mm long, red, nut irregular, included within calyx.

General distribution: Hispaniola, Puerto Rico, and northern South America.

Distribution in Lesser Antilles: St. Barts!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Common names: Black sage, petit mahot, mahot fin.

Notes: The name ''Cordia ulmifolia'' has been applied here or given in synonymy. See Johnston, J. Arnold Arbor **16:** 33-36. 1935, for a discussion of the complex nomenclature.

Cordia reticulata M. Vahl, Eclog. Amer. **3:** 5. 1807.

Type: Montserrat, *Ryan* (c!).
Syn.: *Cordia elliptica* sensu recent authors, non Swartz.
Cordia laevigata sensu Duss, non Lamarck.

Shrub or small tree to 10 m. Petioles 6-14 mm, blades variable in shape, elliptic, obovate, orbicular, 9-15 × 3.5-6.5 cm, base rounded, apex rounded, sometimes acute or apiculate, margin entire, glabrous shiny above, glabrous and dull below. Inflorescence terminal, a few-flowered cyme, peduncles 1-2 cm long; calyx elongate tubular, 6 mm long, densely pubescent with appressed brown sericeous hairs, lobes broadly triangular, 2 mm long; corolla tube 7 mm long, lobes oblong, 4 mm long, reflexed, white; stamens exserted. Drupe ovoid, 1.5 cm long, succulent with obliquely ascending pointed stone.

General distribution: Restricted to the Lesser Antilles.

Distribution in Lesser Antilles: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

Common names: Chypre, coco poule, kósól gwan bwa, corossol grand bois, mahot lélé, mapou grands bois.

Notes: Johnston (J. Arnold Arbor. **30:** 125. 1949) accepted Urban's treatment (Symb. Antill. **3:** 357. 1903) of *Cordia elliptica* Sw. and felt that the specimen in the Swartz herbarium as ''from Jamaica'' was probably labeled in error and that the specimen was more likely from Dominica and collected by Ponthieu. His reference to this as the type of ''*C. reticulata*'' was a lapsus. Subsequently a plant described as *C. fawcettii* Krug & Urban has been recollected in Jamaica and Adams (Fl. Plants Jam. 624. 1972) referred this to the synonymy of *C. elliptica* Sw. which he regarded as endemic to Jamaica. While this taxon is similar to *C. reticulata* it is readily distinguished in the shape of the calyx and the leaf base. Johnston (l.c.) also suggested that *Cordia laevigata* Lam., often applied to this taxon, was an older name for *C. nitida* Vahl. Adams (l.c.) accepted this synonymy. The record he cited as Guadeloupe can not be verified and is presumably a misidentification.

Cordia sebestena L. Sp. Pl. **1:** 190. 1753.

Type: LINN 253.3.
Syn.: *Sebesten sebestena* (L.) Britton, ex Small, Fl. Miami 158. 1913.

Tree to 10 m, young branches brown-pubescent. Petioles 3-5 cm long; blades ovate to ovate-oblong, 8-20 × 4-15 cm, base rounded to subcordate, apex acuminate, acute or obtuse, margin repand-dentate, scabrous above, pale green below. Inflorescence a terminal compound corymbiform cyme, peduncle 3-7 cm long, pedicels 5-15 mm; calyx cylindric 1-1.8 cm long, strigose pubescent, lobes short, enlarging and becoming fleshy in fruit; corolla funnelform or salverform, tube 2-3 cm long, the limb 2.5-4 cm in diameter, orange; stamens exserted or included; style exserted or included. Drupe ovoid, 5- to 8-lobed, pointed, 2-4 cm long, white, invested by succulent white calyx, which is often irregularly split.

GENERAL DISTRIBUTION: Probably native to the Bahamas and Greater Antilles and introduced elsewhere as an ornamental.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Martinique!, St. Lucia!, St. Kitts!, the Grenadines!, Barbados!.

COMMON NAMES: Geiger tree, scarlet cordia, mapou rouge, bois râpe, sébestier.

NOTES: Several color forms of this plant have been seen with the corollas ranging from scarlet to orange and yellow. A heterostylous condition is apparent in this taxon and a condition of heterocorollate has been suggested. Anderson reported in his Hortus that seeds of this plant were brought to St. Vincent from the Virgin Islands by Lochhead and that the species was not native to any of the Windward Islands.

Cordia sulcata DC., Prodr. **9:** 488. 1845.

Type: Guadeloupe, *Bertero s.n.* (G-DC, IDC 800. 1667. I, 6, photo A!).
Syn.: *Cordia macrophylla* sensu Griseb. not L.

Tree to 15 m tall, branches whorled, flat. Petioles 1-1.5 cm long; blades ovate to elliptic 10-32 × 10.5-17 cm, base subcordate, apex acute or attenuate, margins entire, upper surface scabrous, lower surface densely soft-pubescent. Inflorescence terminal, spreading corymbiform-cymes, peduncle to 5 cm, flowers functionally staminate or pistillate, clearly dimorphic; calyx in pistillate flowers cylindric, 3 mm long, densely soft-strigose; corolla tube 4 mm long, lobes 2 mm long, reflexed, anthers aborted and barely exserted; in staminate flowers calyx subglobose 2.5 mm long; corolla tube 4 mm long, lobes 2 × 1 mm, reflexed; stamens exserted, pilose at base, pistillode minute. Fruit subglobose, 6-8 mm in diameter, white, subtended by salviform calyx 4 mm in diameter.

General distribution: Cuba, Hispaniola, Puerto Rico.

Distribution in Lesser Antilles: Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

Common names: Manjack, coco poule, mahaut cyp, mahot grande feuilles, bois flot, bois bré.

HELIOTROPIUM L.

Heliotropium L., Sp. Pl. **1:** 130. 1753.

Syn.: *Schobera* Scop., Introd. 158. 1777. (Type: *Heliotropium angiosperma* Murray = *Schobera angiosperma* (Murr.) Britton.)
Tiaridium Lehm., Asperif. 14. 1818. (Type: *Heliotropium indicum* L. = *Tiaridium indicum* (L.). Lehm.)

Herbs or shrubs. Leaves alternate. Inflorescence a scorpioid cyme, spike or raceme; calyx 5-toothed or 5-lobed, the lobes lanceolate, ovate or linear; corolla salverform or funnelform, tube cylindrical, small, 5-lobed, yellow, blue or white, limb spreading; stamens 5, inserted on corolla tube, included, filaments short or none; ovary 4-loculed, style terminal, often short or wanting, stigmas sessile. Fruit dry, entire or lobed, breaking into 2 to 4 bony nutlets, nutlets 1- or 2-seeded.

Type: *Heliotropium europaeum* L.

A genus of about 250 species of tropical and temperate areas.

Cultivated Taxa

Heliotropium amplexicaule Vahl was collected from cultivation on St. Vincent.
Heliotropium arborescens L. is currently cultivated in gardens on Guadeloupe and St. Vincent.
Heliotropium elegans Urban & Ekman. A species from Hispaniola was reported from St. Martin by Velez. The record can not be verified.

Key to the Species

1. Plants glabrous, with prostrate spreading branches; leaves succulent, usually glaucous . . . . *H. curassavicum*
1. Plants pubescent, erect; leaves not succulent.
    2. Petioles short, 1-4 mm long; spikes with scattered small bracts; fruit dividing into similar 1-seeded nutlets, strigose.
        3. Leaves 2-5 mm long; plant a low, much-branched perennial forming compact mats or cushions, densely silvery pubescent . . . . . *H. microphyllum*
        3. Leaves 1-3 cm long; erect plant with stiff laxly branched habit . . . . *H. ternatum*

2. Petioles well developed, over 5 mm in length; spikes lacking bracts among the flowers, usually annular.
    4. Corolla usually blue or violet, tube 2-4.5 mm long, exserted from calyx; fruit glabrous, ribbed, angulate, cleft vertically, the two lobes diverging and each breaking into a pair of 1-seeded glabrous nutlets .... *H. indicum*
    4. Corolla white, tube short, barely if at all surpassing the calyx; fruit not cleft.
        5. Fruit breaking into 4 strigose, 1-seeded nutlets; spikes paired, usually 2-5 cm long .... *H. procumbens*
        5. Fruit breaking in half, each half 2-seeded, surface with bladder-like swellings that dry to scales; spikes commonly single to 10 cm long .... *H. angiospermum*

Heliotropium angiospermum Murray, Prodr. Stirp. Göttingen 217. 1770.

Type: Cultivated plant in a European garden. No specimen known.
Syn.: *Heliotropium parviflorum* L., Mant. **2:** 201. 1771. (Type: Dill., Hort. Elth. *t. 146, f. 175.*)
Schobera angiosperma (Murr.) Britton, Sci. Surv. Porto Rico **6:** 134. 1925.

Erect loosely branched herb to 1 m, stems with appressed pubescence. Petioles 1-1.5 cm.; blades ovate, elliptic or lanceolate 2-10 × 1-5 cm, base tapering to petiole and decurrent, apex acute, margins entire, ciliate with long hairs, upper surface with scattered long hairs, lower surface pubescent on midrib. Inflorescence a simple or branched scorpioid cyme 2-12 cm long; calyx 1.5 mm long, lobes linear-lanceolate, attenuate; corolla tube short, limb 1 mm in diameter, white. Fruit 2 mm in diameter, 2-lobed, the surface of each with minute bladder-like swellings that appear as scales when dry.

GENERAL DISTRIBUTION: Southeastern United States, Greater Antilles, Mexico, Central America, Trinidad, South America to Bolivia and Chile.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, Martinique!, St. Lucia!. St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Eye bright, petit crête du coq, herbe-scorpion.

Heliotropium curassavicum L., Sp. Pl. **1:** 130. 1753.

Type: Curaçao, LINN 179.11.

Annual herbs with prostrate or ascending branches to 30 cm long. Petioles indistinct; blades narrowly oblanceolate, 2-4 × 0.3-1 cm, base tapering, apex acute or rounded, succulent, usually glaucous. Inflorescence terminal, scorpioid cymes, 2-8 cm long, calyx lobes ovate to deltoid, 1.5-2 mm long; corolla salverform, tube 2 mm long, lobes 1 mm long, white with yellow eye. Fruit 4-lobed, 2 mm in diameter, separating into four 1-seeded glabrous wedge-shaped nutlets, 1.6-1.8 mm long.

GENERAL DISTRIBUTION: Florida, Texas, Greater Antilles, Mexico, Central America, Asia.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Antigua!, St. Eustatius!, St. Kitts!, Guadeloupe!, La Désirade!, Les Saintes!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Verveine-bord-de-mer, romarin blanc.

Heliotropium indicum L. Sp. Pl. **1:** 130. 1753.

Type: linn 179.2.
Syn.: *Tiaridium indicum* (L.) Lehm., Asperif. 14. 1818.

Erect annual herb to 60 cm, stems hirsute. Petioles 4-10 cm long, blades ovate, elliptic or broadly lanceolate, 7-17 × 4.5-11.5 cm, base obtuse to rounded and tapering on the petiole, apex acute, margins irregularly undulate, both surfaces hirsute. Inflorescence terminal, spicate scorpioid cymes to 30 cm; calyx lobes narrow, 1.5-2 mm long, sparsely long-hirsute; corolla salverform, tube 4 mm, limb 2-4 mm, blue, violet or white. Fruit cleft vertically, the two lobes divergent and breaking into pairs of angular, glabrous to sparsely strigose, 3- ridged 1-seeded nutlets, glabrous.

General distribution: Greater Antilles, Trinidad.

Distribution in Lesser Antilles: St. Martin!, Barbuda!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Aboobu, wild clavey, crête à coq, herbe à pain, herbe à malingres.

Heliotropium microphyllum Sw. ex Wikström, K. Vet. Akad. Handl. **1827:** 58. 1828.

Type: Guadeloupe, *Forsström s.n.* (Holotype, s!).

Low much-branched shrub, often cushionlike, densely white-strigose. Petioles to 1 mm, blades linear to oblong-lanceolate, 4-5.6 × 0.5-1.5 mm, base narrowed, apex acute or obtuse, margins entire, both surfaces densely white-strigose pubescent. Inflorescence terminal racemes to 2 cm long, frequently with leaflike bracts; calyx lobes lanceolate, 2 mm long, strigose both surfaces; corolla 4 mm broad, white, lobes ovate, rounded. Fruit of 4 subglobose nutlets, 1 mm in diameter, sparsely strigose-pubescent.

General distribution: In a strict sense restricted to the Lesser Antilles. Johnston (J. Arnold Arbor. **30:** 135. 1949) suggested this to be a variable plant with segregates described from many areas of the Antilles.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Guadeloupe!.

Common name: Ti teigne.

Heliotropium procumbens Miller, Dict. Gard. no. 10. 1768.

Type: Jamaica, *Miller s.n.* (lectotype, BM!).
Syn.: *Heliotropium inundatum* Sw., Prodr. 40. 1788. (Type: Jamaica, probably a Swartz collection.)

Annual herb, commonly branched, to 60 cm tall, with long strigose white hairs. Petioles 5-10 mm long, blades oblong, ovate or oblong-spathulate, 2-5 × 0.8-1 cm, base obtuse or narrowed, apex bluntly obtuse or acute, margin entire, pubescent both surfaces, the hairs with bulbous bases. Inflorescence 1 or few scorpioid spikes 3-6 cm long; calyx lobes linear-lanceolate, 3 mm long; corolla tube 0.8 mm long, lobes lanceolate, 0.2-0.4 mm long, white. Fruit 4-lobed, separating into 4 wedge-shaped nutlets, 0.4-0.5 mm long, densely strigose-pubescent.

GENERAL DISTRIBUTION: Widely distributed in tropical America but rare in the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Antigua!.

NOTE: The record of this taxon from Guadeloupe and other islands as given by Velez can not be verified.

Heliotropium ternatum Vahl, Symb. Bot. **3:** 21. 1794. FIGURE 82.

Type: West Indies.
Syn.: *Heliotropium fruticosum* sensu Griseb. not L.
Heliotropium fruticosum L. var. *confertum* DC., Prodr. **9:** 542. 1845. (Type: Guadeloupe, *Bertero s.n.*)

Branched woody but low shrub to 50 cm tall. Leaves opposite, alternate or ternate, subsessile, blades linear or lanceolate, 1-3 × 0.5-0.8 cm, base rounded, apex acute, margins strongly revolute, rough-strigose above, densely white-tomentose below. Inflorescence terminal, to 6 cm long; calyx lobes ovate, acute, 3 mm long; corolla tube 3 to 4 mm constricted below the spreading ovate lobes, 3 mm in diameter, white with a yellow eye. Fruit 4-lobed, nutlets subglobose, 1 mm in diameter, sparsely strigose or hispid.

GENERAL DISTRIBUTION: Greater Antilles, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Barbuda!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!.

COMMON NAME: Sariette.

NOTE: *Heliotropium fruticosum* L. is not found in the Lesser Antilles.

ROCHEFORTIA Sw.

Rochefortia Sw., Prodr. 53. 1788.

Shrubs or small trees, armed with axillary branches modified to spines. Leaves alternate or fascicled on short shoots. Inflorescence cymose, terminal, flowers unisexual, plant dioecious; calyx 4- or 5-parted, lobes imbricated; corolla rotate, tube very short, lobes 4 or 5; stamens with filiform filaments; ovary 2-celled, styles 2, terminal, filiform, stigmas dilated and lobed. Fruit fleshy, globose, with 4 hard nutlets.

TYPE: *Rochefortia cuneata* Sw. = *R. spinosa* (Jacq.) Urban.

A genus of 6 species of tropical America.

KEY TO THE SPECIES

Twigs very thorny; flowers nearly sessile, 1 or 2 together on short shoots .... *R. acanthophora*

Twigs with few or no spines; flowers several to many in pedunculate cymes ..... *R. spinosa*

Rochefortia acanthophora (DC.) Griseb., Fl. Brit. W. Indian Is. 482. 1861.

Basionym: *Ehretia acanthophora* DC., Prodr. **9:** 510. 1845.
Type: Santo Domingo, *Bertero s.n.* (G).

Thorny shrubs to 2 m tall, spines few to many, to 1.5 cm long. Leaves in fascicles on short shoots, petioles 1 mm long, blades obovate, 0.8-1.5 × 0.5-0.8 cm, base cuneate, apex obtuse to retuse, margins revolute, strigose-scabrous above, sparsely strigose below. Flowers short pedicellate, solitary or clustered; calyx lobes ovate, 3-5 mm long; corolla lobes ovate, white. Fruit drupaceous, spheroidal, 3-6 mm in diameter.

GENERAL DISTRIBUTION: Greater Antilles, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Barbuda!, Antigua!, St. Eustatius!, Guadeloupe!.

Rochefortia spinosa (Jacq.) Urban, Repert. Spec. Nov. Regni Veg. **17:** 162. 1920. FIGURE: 83.

Basionym: *Ehretia spinosa* Jacq., Enum. Syst. Pl. 14. 1760.
Type: Select. Stirp. Amer. Hist. 46, *t. 180, f. 18.*
Syn.: *Rochefortia ovata* Sw., Prodr. 54. 1788. (Type: Herb. Willd. 5641B.)
Rochefortia cuneata Sw. Prodr. 54. 1788. (Type: Jamaica, Swartz "1123" (S).
Rochefortia jacquinii Griseb., Abh. Wiss. Goett. **7:** 253. 1857. (Type: Herb. Griseb. s.n. (GOET).)

Shrub or tree, to 10 m; stems much-branched, spines absent or very few. Leaves alternate, in fascicles on older branches; petioles 4-10 mm, blades obovate to ovate, rarely elliptical, 3-8 × 2-4 cm, base attenuate, apex acute to rounded and emarginate, margin entire. Peduncles slender, 0.5-3 cm long, few- to several-flowered; calyx lobes broadly ovate, 2 mm long, ciliate; corolla tube 1-1.5 mm long, lobes oblong 3.5-4 × 2 mm, white. Drupe globose, 6 mm in diameter, yellow or orange.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Martinique!.

COMMON NAMES: Bois verte, bois d'ébène.

TOURNEFORTIA L.

Tournefortia L., Sp. Pl. **1:** 140. 1753.

Trees, shrubs or scrambling vines. Leaves alternate, entire. Inflorescence terminal, branched scorpioid cymes; calyx 5-parted, sepals free or weakly connate, glabrous to strigose; corolla salverform, tube cylindric, swollen where stamens are attached to tube, lobes spreading; stamens 5, attached to the tube, included, filaments short; ovary 4-loculed, style terminal, filiform or very short, 2-lobed. Fruit globose and unlobed to 4-lobed, subdrupaceous, mesocarp fleshy or corky, nutlets 4 or fewer by abortion.

TYPE: *Tournefortia hirsutissima* L.

A genus of 150 species of warm and tropical areas.

KEY TO THE SPECIES

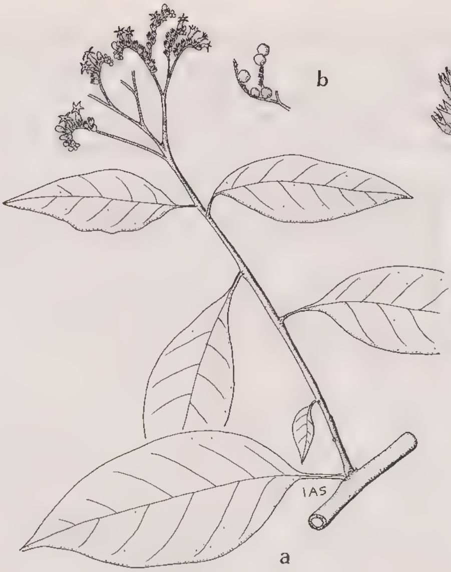
1. Trees to 7 m tall; corolla swollen at the middle, corolla lobes ovate, acute, style elongate; fruit globose . . . . *T. filiflora*
1. Slender to stout climbing plants.
    2. Inflorescence corymbiform-cymose; corolla lobes ovate to oblong, acute; corolla swollen at the base; style wanting or very short; fruit globose, not strongly lobed.
        3. Plants hirsute, copiously pubescent on branches and leaves; fruits hirsute . . . . *T. hirsutissima*
        3. Plants glabrous; fruits glabrous . . . . *T. bicolor*
    2. Inflorescence divaricate-cymose; corolla swollen at apex of tube; fruit strongly lobed.
        4. Leaves less than 3 cm long; buds acuminate at apex; fruit glabrous . . . . *T. microphylla*
        4. Leaves more than 3 cm long.
            5. Leaves glabrous; inflorescence racemose-cymose, the flowers borne scorpioidally; buds acute at apex . . . . *T. maculata*
            5. Leaves pubescent; inflorescence with 1 or 2 branches; buds acuminate at the apex.
                6. Plants hispid; pedicels to 2 mm long; calyx lobes 3 mm long; fruit hispid . . . . *T. caribaea*
                6. Plants curly crispose-pubescent; pedicels less than 1 mm; calyx lobes 1 mm long; fruit glabrous . . . . *T. volubilis*

Tournefortia bicolor Sw., Prodr. 40. 1788. FIGURE 84.

Type: Jamaica.

Syn.: *Tournefortia laevigata* Lam., Tab. Encyc. **1:** 416. 1792. (Type: Guadeloupe, *Badier s.n.*)

Tournefortia bicolor Sw. var. *laevigata* (Lam.) Griseb. Fl. Brit. W. Indian Is. 483. 1861.



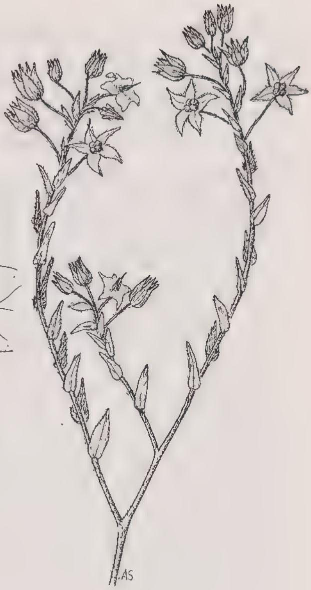


FIGURE 84 (left). *Tournefortia bicolor*: a, flowering shoot, × 0.35; b, fruit, × 0.34.
FIGURE 85 (right). *Trichodesma zeylanicum*: × 0.35.

Shrubby, often climbing, young branches sparsely appressed strigose-pubescent. Petioles 5-15 mm long; blades lanceolate to elliptic, 5-15 × 3-8 cm, base cuneate to rounded, apex short-acuminate, margin entire, upper surface shiny, both surfaces with few scattered hairs. Inflorescence branched, cymose-scorpioid; calyx lobes ovoid, 2 mm long, subulate or acuminate; corolla tube 5 mm, lobes ovate, 2-3 mm, strigose-pubescent outside, white; style wanting. Drupe globose, 8 mm long, white, fleshy but eventually separating into 4 nutlets.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Jamaica, Trinidad, tropical America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados.

COMMON NAMES: May wet, mirette, liane à chique.

Tournefortia caribaea (A. DC.) Grisebach, Fl. Brit. W. Indian Is. 484. 1862.

Basionym: *Tournefortia psilostachya* Cham. var. *caribaea* A. DC. *in* DC., Prodr. **9:** 525. 1825.
Type: Dominica, *Imray 125.*

Slender climber, stems strigose. Petioles 4-9 mm long; blades ovate to lanceolate or elliptic, 5-10.5 × 1.5-3.5 cm, base rounded, apex acuminate to acute. Inflorescence peduncle 1 cm long; pedicels 1-2 mm long; calyx lobes linear-lanceolate, 3 mm long, lightly strigose or hispid; corolla tube 3-4 mm, lobes 1-1.2 mm, style 3-4 mm. Fruit globose becoming 4-lobed, hispid.

General distribution: Restricted to Lesser Antilles.

Distribution in Lesser Antilles: Les Saintes!, Dominica!, Martinique!.

Note: A distinctive population of restricted distribution included by Johnston (J. Arnold Arbor. **30:** 131. 1949) in *T. volubilis.*

Tournefortia filiflora Griseb., Fl. Brit. W. Indian Is. 483. 1861.

Type: Dominica, *Imray s.n.* (K).
Syn.: *Tournefortia foetidissima* sensu Griseb., non Willd.

Shrub or tree to 8 m, young branches strigillose. Petioles 2 cm long, blades oblong, elliptic-oblong, 20-40 × 8-15 cm, base cuneate and decurrent, apex acute or acuminate, margins entire, glabrous but papillose above. Inflorescence corymbiform-cymose, flowers scorpioid on branches; sepals lanceolate, 2 mm long; corolla tube slender, 6 mm long, white, strigose, lobes ovate, 1.5 mm long, reflexed; style 1.5-2 mm long. Drupe globose, 4 mm in diameter, yellowish-white.

General distribution: Puerto Rico and Lesser Antilles.

Distribution in Lesser Antilles: St. Martin, Antigua!, Saba!, St. Eustatius!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

Common names: Mal moulo-ou, herbe à chique.

Tournefortia hirsutissima L., Sp. Pl. **1:** 140. 1753.

Type: Haiti, LINN 193.1.

Woody vine to 5 m, all parts short-hirsute. Petioles 1-2 cm, blades elliptic to ovate-elliptic, 8-20 × 3.5-7 cm, base cuneate or obtuse, apex acuminate, acute or obtuse, margin entire, scabrous and hirsute above, hirsute below. Inflorescence corymbiform-cymose, branches 3-4 cm long; sepals linear-lanceolate, 3 mm long; corolla 4-6 mm long, lobes linear, 2 mm long, acute, tube strigose, white; stigma annular, style wanting. Drupe globose, 5 mm in diameter, white.

General distribution: Greater Antilles, Trinidad.

Distribution in Lesser Antilles: St. Martin!, Antigua!, St. Kitts!, Guadeloupe!, Martinique!, St. Vincent.

Common name: Liane à chique poilue.

Tournefortia maculata Jacq. Enum. 14. 1760.

Type: Colombia, Select. Stirp. Amer. hist. 47. 1763.
Syn.: *Tournefortia guadeloupensis* Urban, Repert. Spec. Nov. Regni Veg. **17:** 162. 1920. (Type: Guadeloupe, *Duss 3992.*)
Tournefortia laurifolia sensu authors, non Ventenant.

Climber, branches glabrous. Petioles 7-15 mm long; blades ovate, lanceolate-elliptic or broadly lanceolate, 4-14 × 2-5 cm, base acute to rounded, apex acuminate, sparsely pubescent both surfaces, often lighter below. Inflorescence slender, cymose branches slender, to 5 cm; calyx lobes subulate to ovate, 1-1.2 mm long; corolla tube 5-6 mm long, lobes acuminate, 1-1.3 mm long, greenish-yellow; style 2-4.5 mm long. Fruit conspicuously 4-lobed, subglobose, breaking into 4 nutlets, yellow spotted with black.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Nevis!, Guadeloupe!, Dominica!, Martinique!.

Tournefortia microphylla Bertero ex Sprengel, Syst. **1:** 644. 1824.

Type: Antilles, possibly *Bertero s.n.* (n.v.).
Syn.: *Tournefortia volubilis* L. var *microphylla* (Bertero) DC., *in* DC., Prodr. **9:** 523. 1845.

Slender woody vine, sometimes slightly fleshy, 1-3 m long, young branches and inflorescence brown-strigillose. Petioles 4 mm; blades ovate to elliptic or lanceolate, 1-3 × 0.4-0.9 cm, base rounded or narrowed, apex obtuse, rounded or acute, margins entire, puberulent or glabrate below. Inflorescence 2-branched, peduncles 1.5 cm long, branches 2-3 cm long, pedicels to 1 mm; sepals lanceolate, 1-1.2 mm; corolla tube twice as long as calyx, lobes lanceolate, acute, 1-1.5 mm long, greenish, style 2-3 mm long. Fruit 4-lobed, glabrous, white with black spots.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua, St. Eustatius!.

NOTES: Urban recognized this taxon first as a variety (Symb. Antill. **4:** 525. 1910) and later (l.c. **8:** 587. 1921) as a synonym of *T. volubilis.* Britton and Wilson (Fl. Porto Rico **6:** 133. 1925) accepted it as a species. *Tournefortia microphylla* Hamilton, Prodr. 24. 1825 (Oct.) may also be the same species and a later homonym.

Tournefortia volubilis L., Sp. Pl. **1:** 140. 1753.

Type: LINN 193.3.
Syn.: *Tournefortia sericea* Vahl, Eclog. **1:** 17. 1796. (Type: Montserrat, *Ryan s.n.*)
Messerschmidia punctata Sprengel, Neue Entdeck. **3:** 28. 1822. (Type: Martinique, *Sieber s.n.*)

Tournefortia punctata (Sprengel) Sprengel, Syst. **1:** 643. 1825.
Tournefortia barbadensis N.E. Brown ex Britton, Bull. Torrey Club **48:** 343. 1922. (Type: *Lane 428*, (K.).)

Climbing shrubs, branches finely pubescent. Petioles 5-10 mm long; blades lanceolate to narrowly elliptic, 4-10 × 1-3 cm, base acute or obtuse, apex acute or short-acuminate, both surfaces with scattered hairs or glabrate. Inflorescence loosely branched, spikes to 4 cm long; calyx lobes 1 mm long; corolla greenish-yellow, pubescent outside, tube 2.5 mm long; lobes narrow, 0.5-1 mm long. Drupe 3-5 mm in diameter, white with black dots, fleshy but later separating into 4 nutlets.

GENERAL DISTRIBUTION: An extremely variable plant of tropical America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba, St. Eustatius, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

TRICHODESMA R. Br.

Trichodesma R. Br. Prodr. 496. 1810, nom. cons.

Herbs or small shrubs, coarsely hispid-pubescent. Leaves opposite or the upper alternate. Inflorescence loosely racemose, the flowers long-pedicellate and extra-axillary to leaflike bracts which are reduced above; calyx deeply 5-lobed, these increasing in size in fruit; corolla funnelform, lobes usually pointed; stamens exserted, filaments short, anthers connivent to form a cone, connective pubescent; ovary 4-celled, style filiform, terminal, stigmas globose. Fruit separating into 4 nutlets, these smooth, shining on the outer face, rugose on the inner face.

TYPE: *Borago zeylanica* N.L. Burm. = *Trichodesma zeylanica* (N.L. Burman) R. Brown, typ. cons.

A genus of 45 species of the Old World tropics. Introduced and established elsewhere.

Trichodesma zeylanicum (N. L. Burm.) R. Br. Prodr. 486. 1810.
FIGURE 85.

Basionym: *Borago zeylanica* N. L. Burm., Fl. Ind. 41. 1768.
Type: Not determined.

Erect sparsely branched herb to 60 cm, with stiff bristlelike hairs. Leaves opposite, subsessile or petioles short; blades narrowly elliptic, 5-20 × 4-6 cm, base decurrent on petiole, apex acute, margin entire, bristly above with bulbous-based hairs. Racemes terminal and lateral, to 15 cm long, pedicels extra-axillary, slender 1-3 cm; calyx lobes ovate-lanceolate, acuminate, 7-8 mm long, setose and ciliate; corolla funnelform, 6 mm long, blue or mauve; anthers exserted. Fruit enclosed by the large and persistent calyx, ovoid, 4-5 mm long, 4-lobed, separating into 4 nutlets, nutlets smooth shining, ivory-colored outside, brown and rugose inside.

GENERAL DISTRIBUTION: Australia and tropical Asia.

DISTRIBUTION IN LESSER ANTILLES: Barbados!.

NOTE: Perhaps introduced as a source of oil or as an ornamental herb but escaped and established in St. Peter's Parish, Barbados.

AVICENNIACEAE Endlicher

AVICENNIACEAE Endlicher, Ench. Bot. 314. 1841.

Shrubs or trees, mostly of brackish habitats, with abundant erect terete pneumatophores, occasionally with adventitious roots or root clusters on branches. Leaves decussate, thick or coriaceous, petiolate, entire, estipulate. Inflorescences axillary or terminal, cymose to congested and subcapitate. Flowers perfect, hypogynous; calyx of 5 equal sepals, subtended by a pseudoinvolucre of a short bract and bracteoles; corolla gamopetalous, subactinomorphic, 4-parted; stamens 4, inserted in throat of tube, equal, exserted; pistil of 2 carpels, united, ovules 4, style tapering, bifid. Fruit a fleshy capsule, compressed, oblique, dehiscent by 2 valves, usually 1-seeded, viviparous, testa wanting, cotyledons thick and fleshy.

TYPE: *Avicennia* L.

A monotypic family, of tropical areas. Often included within the Verbenaceae but differs in anatomical as well as flowering and fruiting characteristics.

AVICENNIA L.

Avicennia L., Sp. Pl. **1:** 110. 1753.

Characters of the family.

TYPE: *Avicennia officinalis* L.

A genus of 12 species of tropical brackish areas.

KEY TO THE SPECIES

Leaves mostly acute at apex; corolla lobes tomentose both surface; style 4-5 mm long . . . . *A. germinans*

Leaves mostly rounded at apex; corolla lobes glabrous above, tomentose below; styles 1-2 mm long . . . . *A. schaueriana*

Avicennia germinans (L.) L., Sp. Pl. ed. 3, **2:** 891. 1764. FIGURE 86.

Basionym: *Bontia germinans* L., Syst. Nat. ed. 10, **2:** 1122. 1759.
Type: Jamaica, Browne, LINN 813.2, ex Stearn.
Syn.: *Avicennia nitida* Jacq., Enum. Syst. Pl. 25. 1760; Select. Stirp. Amer. Hist. 177, *t. 112, f. 1.* 1763. (Type: ibid *t. 112. f. 1.* No Jacquin collections located.)
Avicennia tomentosa Jacq., Enum. Syst. Pl. 25. 1760. Nom. illegit. citing L.

Trees to 16 m tall, bark characteristically dark colored, fissured with orange-red cortex, erect pneumatophores abundant, single and clustered aerial adventitious roots from old branches of mature trees. Petioles 0.5-1.4 cm long, blades ovate, oblong or oblong-lanceolate, 3-10 × 1.8-4 cm, base narrowed, apex acute or rarely obtuse and apiculate, thick textured to subcoriaceous, pubescent when young becoming glabrate above, finely pubescent below. Inflorescence 2-5 cm long. Flowers sessile, subcapitate; calyx lobes ovate, 3-5 × 2-3 mm, appressed pubescent; corolla tube 4-6 mm long, lobes oval to oblong, 2-2.5 mm long, rounded, white, appressed pubescent outside, velutinous-tomentose inside. Capsule oblong or elliptic, 1.2-2 cm long, compressed, oblique at both ends, light green, pubescent. Seed 1, viviparous.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico, Central America, Trinidad, the Guianas.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts, Barbuda!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Martinique!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Black mangrove, olive mangrove, bois de mèche, mangle gris.

Avicennia schaueriana Stapf & Leechman ex Moldenke, Lilloa **4:** 336. 1939.

Type: Brazil, *Schauer.* No lectotype designated ex Stearn.

Trees to 8 m tall. Petioles 2-10 mm long; blades oblanceolate or obovate, 1.7-8 × 1.1-3 cm, base cuneate, apex obtuse or rounded, puberulent to glabrate. Inflorescence 2.5-6.5 cm long; calyx lobes ovate, densely pubescent; corolla tube 4-6 mm long, densely pubescent, lobes obovate, 4 × 2 mm, glabrous above. Capsule 1.2-2 cm long, apiculate, compressed, pubescent.

GENERAL DISTRIBUTION: Trinidad, South America to southern Brazil.

DISTRIBUTION IN LESSER ANTILLES: Martinique, St. Lucia!, Grenada!.

VERBENACEAE

VERBENACEAE, J. St. Hil., Expos. Fam. Nat. **1:** 245. 1805.

Trees, shrubs, woody vines or herbs, branches often 4-angled. Leaves opposite, mostly decussate, or whorled, exstipulate, simple or palmately compound. Inflorescences axillary or terminal, cymose, paniculate, racemose or

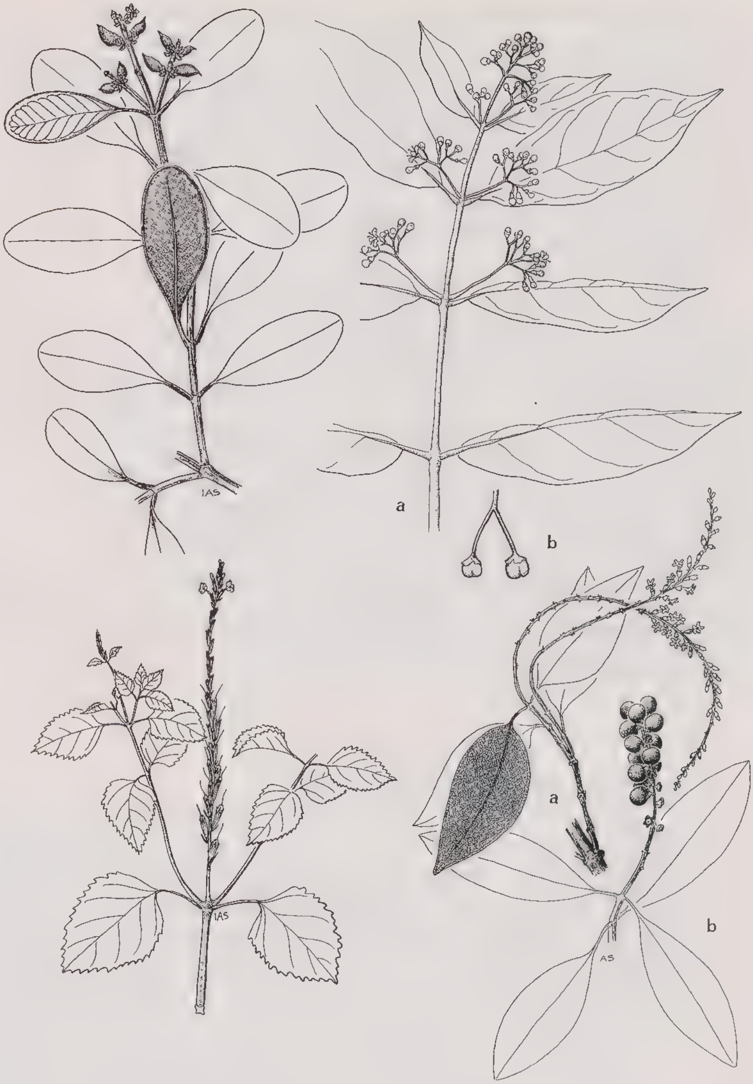


FIGURE 86 (upper left). *Avicennia germinans*: × 0.3. FIGURE 87 (upper right). *Aegiphila martinicensis*: a, flowering shoot, × 0.3; b, fruit, × 0.2. FIGURE 88 (lower left). *Bouchea prismatica*: × 0.3. FIGURE 89 (lower right). *Citharexylum spinosum*: a, flowering shoot, × 0.3; b, fruiting shoot, × 0.3.

spicate or capitate, flowers perfect or imperfect, calyx gamosepalous, sometimes accrescent, 4- or 5-lobed or -toothed; corolla gamopetalous, regular or subbilabiate, funnelform or salverform, lobes 4 or 5; stamens 4, didynamous, rarely 2, filaments inserted on corolla tube, staminodes sometimes present; ovary 2- to 5-loculed, often 2- or 4-lobed, locules with 1 or 2 ovules. Fruit a schizocarp or a drupe separating into 2 or 4 cocci or pyrenes.

TYPE: *Verbena* L.

A family of about 75 genera, chiefly tropical.

CULTIVATED TAXA

Aloysia triphylla (L'Hér.) Britton. Reported by Duss from Guadeloupe and Martinique as *Lippia citrodora*.

Amsonia campestris (Aubl.) Mold. Known from St. Vincent according to Moldenke. Not documented.

Callicarpa formosana Rolfe. Once cultivated at the St. Pierre Botanical Garden according to Duss.

Congea tomentosa Roxb. Currently cultivated on Montserrat.

Faradaya splendida Mueller. Reported to occur on Dominica by Moldenke.

Gmelina arborea Roxb. Reported to occur on Dominica by Moldenke.

Gmelina asiatica L.

Gmelina philippensis Cham. Currently cultivated on Montserrat, Dominica, Martinique, St. Lucia, St. Vincent and Grenada.

Holmskioldia sanguina Retz. Currently cultivated on Montserrat, Guadeloupe, Martinique and Barbados.

Oxera pulchella Labill.

KEY TO THE GENERA

1. Inflorescence cymose or paniculate.
    2. Leaves palmately compound; inflorescence axillary, cymose; corolla 2-lipped, violet or blue .... *Vitex*
    2. Leaves simple.
        3. Fertile stamens 2, staminodes 2; flowers blue, puberulent .... *Cornutia*
        3. Fertile stamens 4, 5 or 6; flowers white or yellow.
            4. Large trees; leaves large, 30-50 cm; fruiting calyx inflated, surrounding the drupe, stone 1, 4-celled .... *Tectona*
            4. Shrubs or small trees; leaves smaller than 30 cm long; calyx accrescent, cupular or fleshy but not surrounding the drupe, fruit of distinct pyrenes.
                5. Calyx subtruncate; flowers actinomorphic; corolla less than 1 cm long; drupe yellow or orange .... *Aegiphila*
                5. Calyx lobed; flowers zygomorphic; corolla exceeding 1 cm in length; fruit most often black .... *Clerodendrum*
1. Inflorescence spicate or racemose.
    6. Spikes elongate; flowers sessile, closely appressed to the rachis or immersed in it; corolla blue, purple or white; fertile stamens 2 ...... *Stachytarpheta*
    6. Flowers short- to long-pediceled; fertile stamens 4.

7. Woody vines; leaves commonly scabrous; racemes elongate, pedicels 1 cm long; calyx deep-lobed, lobes showy, much enlarged in fruit, calyx and corolla usually blue or purple . . . . *Petrea*
7. Plants herbaceous, often woody or trees or shrubs, not vines.
    8. Plants herbaceous, sometimes woody at base.
        9. Fruiting calyx inflated, globose, with minute uncinate hairs; fruit of 2 echinate cocci, each 2-celled . . . . *Priva*
        9. Fruiting calyx not inflated, hairs not uncinate.
            10. Spikes congested, subcapitate; corolla with 4 lobes; calyx minute . . . . *Lippia*
            10. Inflorescence elongate, not head-like, corolla with 5 lobes, calyx evident, not minute.
                11. Fruiting calyx campanulate; fruit turbinate with slightly fleshy exocarp, with apical spines . . . . *Tamonea*
                11. Fruiting calyx tubular; fruit dry, cylindrical, beaked but not with spines . . . . *Bouchea*
    8. Trees or shrubs.
        12. Fruits dry; corolla with 4 lobes, calyx persistent, enclosing fruit; ovary of 2 locules; fruit less than 4 mm, shrubs or herbs . . . . . . *Lippia*
        12. Fruits drupaceous, shrubs or small trees.
            13. Fruiting calyx tightly enclosing the fruit, contracted at apex, orange . . . . *Duranta*
            13. Fruiting calyx not contracted at apex nor enclosing the fruit.
                14. Inflorescence headlike, perfect, in dense short spikes, calyx small and inconspicuous, ovary bilocular, fruit of two 1-seeded pyrenes . . . . *Lantana*
                14. Flowers unisexual, in elongated often lax racemes; calyx evident; ovary with 4 perfect or imperfect locules, pyrenes 2, each 2-celled . . . . *Citharexylum*

AEGIPHILA Jacq.

Aegiphila Jacq., Observ. Bot. **2:** 3. 1767.

Shrubs or small trees. Leaves simple, opposite and decussate, petiolate. Inflorescence cymose or cymes paniculate, axillary or terminal, flowers heterostylous; calyx campanulate or tubular, margin truncate or variously lobed, accrescent and thickened in fruit; corolla funnelform or salverform, tube cylindric, limb 4- or 5-parted, imbricate; stamens 4 or 5, equal or nearly so, included or exserted, style terminal, stigma bifid, lobes subulate; ovary 4-locular, ovules 1 per locule. Fruit drupaceous, usually 4-seeded.

TYPE: *Aegiphila martinicensis* Jacq.

A genus of about 150 species. For further information see Moldenke, Brittonia **1:** 245-477. 1934.

Fruiting calyx shallowly cupuliform to patelliform, margins always distinctly lobed .... *A. martinicensis*

Fruiting calyx urceolate becoming deeply cupuliform, margins irregularly cut.... .... *A. elata*

Aegiphila elata Sw., Prodr. 31. 1788.

Type: Jamaica, *Swartz s.n.* (holotype, s).

Shrubs, branchlets glabrous to puberulent. Petioles 5-15 mm long, blades ovate, oblong-ovate or elliptic, 6-15 × 2-7 cm, base acute to acuminate, obtuse or rounded, apex abruptly attenuate to narrowly acuminate, minutely glandular-punctate below, margin entire. Inflorescence large, cymes many-flowered, pedicels 4-8 mm, calyx turbinate-funnelform, 3-5 mm long, margin with 4 distinct lobes, 4-7 mm long in fruit, then cupuliform; corolla tube 5-8 mm, lobes 4, 3-6 mm long, cream to pale yellow. Fruit subglobose to oblong-ovoid, 7 mm in diameter, 5-6 mm broad, yellow to orange.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Martinique.

NOTES: Moldenke (Brittonia **1:** 466. 1934) saw in Vienna in herb. Portenschlag a specimen attributed to Martinique with no collector indicated. Many such specimens were collected in the Schoenbrun gardens and glass houses from plants introduced and grown by Jacquin. However, Moldenke discusses at length why these are not types in this instance.

Aegiphila martinicensis Jacq., Obs. Bot. **2:** 3, *t. 27.* 1764. FIGURE 87.

Type: Martinique, *Jacquin s.n.* (w) ex Mold.

Syn.: *Aegiphila diffusa* Andrews, Bot. Rep. **9:** 578, *f. 1.* 1809. (Type: Cultivated plant, obtained from Barbados.)

Aegiphila oligoneura Urban, Repert. Spec. Nov. Regni Veg. **16:** 40. 1919. (Type: Jamaica, *Harris 8166.*)

Aegiphila martinicensis Jacq. var. *oligoneura* (Urb.) Mold., Repert. Spec. Nov. Regni Veg. **33:** 132. 1933.

Aegiphila barbadensis Mold., Repert. Spec. Nov. Regni Veg. **33:** 113. 1933. (Type: Barbados, *Warming 101* (lectotype, w).)

Aegiphila martinicensis Jacq. f. *barbadensis* (Mold.) Mold., Phytologia **25:** 368. 1973.

Shrub or slender tree, to 5 m tall; branches glabrescent. Petioles 1-1.5 cm long; blades oblong-lanceolate to oblong, 8-16 × 3-8 cm, base narrowed, acute, obtuse or rounded, apex abruptly acuminate, chartaceous, puberulent and gland-dotted, margin entire to erose. Inflorescence axillary and terminal, cymes many-flowered, trichotomous, terminal panicle thyrsoid to 17 cm long, 13 cm wide; peduncles 2.5-8.5 cm long, pedicels 2-4 mm long; calyx campanulate, turbinate, or funnelform, 2-3 mm long, puberulent or glabrous, margin subentire; corolla tube 5-10.5 mm long, white or pale yellow, fruiting calyx short-stalked, enlarged, cupuliform or patelliform, 6 mm wide, rim irregularly lobed. Fruit globose, 1 cm in diameter, lobed, yellow or red, pyrenes 4.

GENERAL DISTRIBUTION: Jamaica, Puerto Rico, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Bois cabrit, bois de fer, bwa kabuit, bois cabroit.

NOTES: Leaves are variable in size and shape with the age of the plants, especially those of adventitous shoots.

BOUCHEA Cham.

Bouchea Chamisso, Linnaea **7:** 252. 1832, nom. cons.

Annual or perennial herbs. Leaves opposite, petiolate or sessile. Inflorescence racemose or spicate, terminal or axillary, flowers pedicellate, calyx tubular, 5-ribbed, teeth setaceous, equal; corolla funnelform, tube straight or curved, lobes unequal, blue to rose or purple; stamens 4, didynamous, filaments inserted on tube; ovary 2-loculed, ovules 1 per locule, style filiform, stigma bilobed. Fruit linear, rostrate, dry, included in calyx, separating into 2 cocci, one of these commonly sterile.

TYPE: *Verbena pseudogervao* A. St. Hil. = *Bouchea pseudogervao* (A. St. Hil.) Chamisso, typ. cons.

A genus of 10 species, one in Ethiopia, the rest tropical America.

Bouchea prismatica (L.) Ktze., Revis. Gen. Pl. **2:** 502. 1891. FIGURE 88.

Basionym: *Verbena prismatica* L., Sp. Pl. **1:** 19. 1753.
Type: LINN 35.3, ex Gillis.
Syn.: *Bouchea ehrenbergia* Cham., Linnaea **7:** 253. 1832. (Type: Santo Domingo, *Ehrenberg s.n.* (B).)

Herbs to 60 cm, simple or sparsely branched. Leaves on petioles 1-6 cm long, ovate, 2-8 × 1-4.5 cm, base cuneate, apex obtuse or acute, margin serrate to crenate-dentate, sparsely pubescent. Inflorescence racemose, terminal 6-25 cm long, flowers subsessile, bracts linear-lanceolate, calyx 46 mm long, teeth 1-2 mm; corolla salverform, blue, rose or purple. Fruiting calyx 5-9 mm long, fruit linear-terete 8-9.5 mm long, glabrous, beak 1.5 mm long, separating into 2 units, one commonly sterile.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, St. Eustatius!, Martinique, Barbados!.

CITHAREXYLUM L.

Citharexylum L., Sp. Pl. **2:** 625. 1753.

Trees or shrubs, branches tetragonal, leaf scars commonly elevated. Leaves opposite or whorled, entire or juvenile dentate, deciduous, usually with pair of glands at base. Inflorescence racemiform or spicate, terminal or axillary; flowers often unisexual, calyx tubular, accrescent, truncate, 5-toothed or lobed; corolla funnelform or salverform, tube narrow, limb spreading white or yellow; stamens 4, didynamous, included, filaments short, at or above middle of tube; ovary 4-celled, ovules 1 per locule; fruiting calyx enlarged. Fruit drupaceous, with two 2-celled and 2-seeded pyrenes; seeds oblong.

TYPE: *Citharexylum spinosum* L.

A genus of about 70 species, these often poorly defined, of tropical America. For further information see Moldenke, Phytologia **6:** 242-256, 262-320. 1980 et seq.; Tomlinson & Fawcette, J. Arnold Arb. **53:** 386-389. 1972.

KEY TO THE SPECIES

Leaves broadly elliptic or elliptic-oblong, acuminate, acute or obtuse at apex, veins and veinlet reticulation abundant, usually plainly visible on both surfaces, flowers distinctly pedicellate . . . . *C. spinosum*

Leaves narrowly oblong or narrowly elliptic, apex rounded, veins and veinlet reticulation sparse and distant, usually obscure above or on both surfaces, pedicels at anthesis 1-2 mm, in fruit 2-3.5 mm . . . . *C. caudatum*

Citharexylum caudatum L. Sp. Pl. ed. 2, **2:** 872. 1763.

Type: LINN 777.5.
Syn.: *Citharexylum erectum* Sw., Prodr. 91. 1788. (Type: Not determined.)

Shrubs or trees to 10 m tall, glabrous. Leaves on petioles 0.5-2 cm long, blades elliptic or elliptic-oblong, broadest above the middle, 5-17 × 1.5-5.5 cm, base acute, apex obtuse rarely acute, margin recurved, 2 dark elongated glands, coriaceous, lustrous. Racemes axillary or terminal, erect or pendant, 2-3.5 cm, glabrous; pedicels 1- 2.5 mm, calyx campanulate 2-3.5 mm, glabrous; 5-costate, truncate, in fruit shallowly cupuliform, corolla tube 3-4 mm, lobes 10-12 mm, glabrous outside, puberulent inside, white. Fruit ovoid to subglobose, to 12 mm; lustrous yellow, orange or red, becoming black.

GENERAL DISTRIBUTION: Greater Antilles, Central America.

DISTRIBUTION IN LESSER ANTILLES: Martinique, *Duss 2027*, ex Moldenke. Adams's report from Dominica cannot be verified.

Citharexylum spinosum L., Sp. Pl. **2:** 625. 1753. FIGURE 89.

Lectotype: Barbados, *James Reed s.n.*, Sloane Herb. BM ex Mold.
Syn.: *Citharexylum quadrangulare* Jacq., Enum. Syst. Pl. 26. 1760. (Type: Not determined.)

Citharexylum teres Jacq., Select. Stirp. Amer. Hist. 185, *pl. 118.* 1763. (Type: ibid. *pl. 118.*)

Citharexylum cinereum Jacq. ex Gmel., Syst. ed. 13, **2:** 942. 1789. Illegitimate renaming of *C. teres* Jacq. with reference to "t. 178" for 118.

Citharexylum surrectum Griseb., Fl. Brit. W. Indian Is. 497. 1861, in part.

Shrub or tree to 12 m, branches tetragonous, glabrous, twigs brown. Leaves on petioles 0.7-2.4 cm long, blades elliptic-oblong to subovate, 15-26 × 1.5-8 cm, base acute, apex obtuse, acute or short acuminate, subentire except juvenile leaves irregularly and coarsely dentate, glabrous, occasionally barbellate along midrib or in vein axils. Racemes terminal or axillary, 10-20 cm long, with 1 to 5 pairs of basal branches, 2.5-35 cm long, nutant, peduncles and rachis slender, sparsely puberulent or glabrous, pedicels 1.5-4 mm long, calyx cyathiform, 3-4 mm long, glabrous, ciliate or obscurely 5-dentate; corolla tube 4-6 mm long, glabrous outside, villose within. Fruiting calyx broadly cupuliform, 3 mm long, 5-6 mm in diameter, glabrous, rim irregularly lobed, fruit globose, 0.7-1 cm in diameter, orange, or red and turning black.

GENERAL DISTRIBUTION: Lesser Antilles, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Cutlet, bois cocklet, bwa kòklet, fiddle wood, fig bush, fairy tree, bois carré, bois-guitare, bois de fer blanc, bois côtelette.

NOTES: Further field study may show that specimens from a comparable range in the Lesser Antilles which Moldenke has annotated as *C. fruticosum* represent only an ecological variant of *C. spinosum.* I have examined many of these specimens as well as populations of *C. spinosum* in the field and cannot distinguish between the species. Further, Moldenke has designated as the lectotypes of *C. fruticosum* and *C. spinosum* collections of James Reed from Barbados. No recent collections from Barbados have been annotated *C. fruticosum.* A. R. A. Gorts-Van Rijn (Fl. Guianas 1988) considered *C. fruticosum* a synonym of *C. spinosum.* The type of *C. spinosum* and many additional sterile specimens may have been from juvenile plants or from the adventitious shoots where leaves develop spinose margins. In addition, Moldenke described *Citharexylum hybridum*, Lilloa **4:** 313. 1939 (Type: Trinidad, *Broadway 4064* (NY)) citing also *Broadway 6658, Eggers 5485*, & *Sandwith 1821* for material intermediate between *C. fruticosum* and *C. spinosum* found in Tobago, Trinidad, Venezuela and the Guianas.

CLERODENDRUM L.

Clerodendrum L., Sp. Pl. **2:** 637. 1753.

Syn.: *Siphonanthus* L. Sp. Pl. **1:** 109. 1753. (Type: *S. indica* L.)
Volkameria L., Sp. Pl. **2:** 637. 1753. (Type: *V. aculeata* L.)

Trees, shrubs or climbers, occasionally armed. Leaves opposite or whorled, deciduous, petiolate, entire or dentate. Inflorescence cymose, axillary or terminal, or pedunculate panicles or aggregated in corymbs or heads. Flowers irregular, often showy, sometimes double; calyx campanulate to tubular, truncate or entire or 5-toothed or 5-parted, often accrescent, sometimes enclosing the fruit; corolla salverform, tube cylindric, straight or curved, limb spreading, 5-parted; stamens 4, didynamous, inserted in corolla tube, long exserted, ovary imperfectly 4-celled, ovules 1 per locule; style filiform, stigma capitate. Fruit drupaceous, globose or ovoid, often 4-sulcate or -lobed, with 4 pyrenes which often cohere in pairs; seeds oblong.

TYPE: *Clerodendrum infortunatum* L.

A genus of about 400 species of tropical areas.

CULTIVATED TAXA

Clerodendrum buchanani (Roxb.) Walp. Reported from Dominica.
Clerodendrum hircinum Schum. Reported by Belanger from Martinique.
Clerodendrum inerme (L.) Gaertn. Reported from Martinique by Moldenke.
Clerodendrum kaempferi (Jacq.) Steud. Reported from Martinique by Fournet.
Clerodendrum nutans Wall. = *C. wallichii* Merr. Reported from Antigua, Guadeloupe & Martinique.
Clerodendrum paniculatum L. Reported from Dominica.
Clerodendrum thomsonae Balf. Reported from St. Eustatius, Guadeloupe & Martinique.
Clerodendrum ugandense Prain. Reported from Dominica.
Clerodendrum umbellatum Poir. var. *asperifolium* (Thomas) Mold. Reported from Martinique.
Clerodendrum umbellatum Poir. var. *speciosum* (Dombrain) Mold. Reported from Montserrat, Guadeloupe, Dominica & Martinique.
Clerodendrum volubile P. Beauv. Reported from Guadeloupe.
Clerodendrum whitfieldii Serem. Reported from Martinique.

KEY TO THE SPECIES

1. Plants armed with spines; flowers white, native .... *C. aculeatum*
1. Plants unarmed.
    2. Leaves lanceolate-oblong, whorled .... *C. indicum*
    2. Leaves cordate or deltoid.
        3. Leaves deltoid; flowers white, mostly double, in compact cymes .... *C. philippinum*
        3. Leaves cordate, flowers scarlet, single, in loose panicles .... *C. speciosissimum*

Clerodendrum aculeatum (L.) Schlecht., Linnaea **6:** 750. 1831.
FIGURE 90.

Basionym: *Volkameria aculeata* L. Sp. Pl. **2:** 637. 1753.
Type: LINN 809.1.
Syn.: *Clerodendron aculeatum* (L.) Griseb. Fl. Brit. W. Indian Is. 500. 1861, orthogr. var.

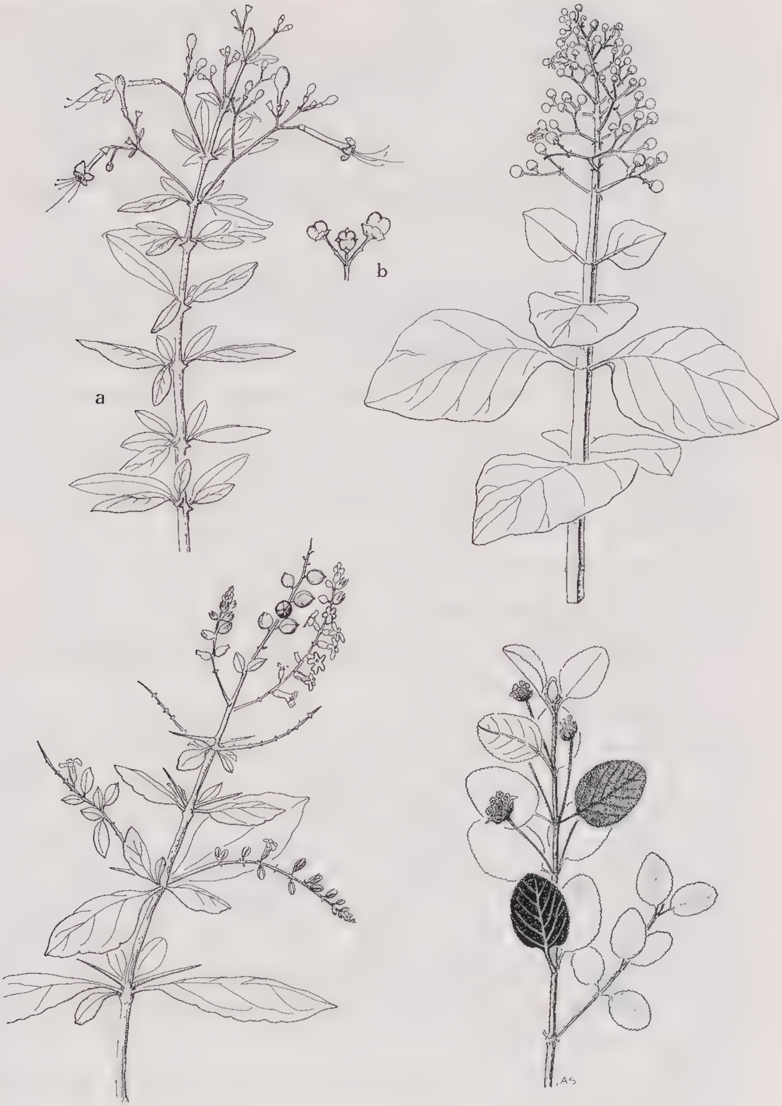


FIGURE 90 (upper left). *Clerodendrum aculeatum*: a, flowering shoot, × 0.3; b, fruit, × 0.3. FIGURE 91 (upper right). *Cornutia pyramidata*: × 0.3. FIGURE 92 (lower left). *Duranta erecta*: × 0.3. FIGURE 93 (lower right). *Lantana involucrata*: × 0.3.

Shrub with climbing branches, to 3 m, branches densely pubescent, armed with stout opposite spreading spines to 8 mm long. Leaves extremely variable in size, on petioles to 1 cm long, blades oblong to elliptic-obovate, 2-5 × 0.5-2.5 cm, base cuneate, acute or rounded, apex obtuse to acute, thin. Inflorescences axillary, cymes stalked, peduncles to 2 cm long, pedicels 6-14 mm long, puberulent; calyx 3 mm long, puberulent, lobes triangular, apiculate, corolla tube 1.8 cm long, lobes oblong, 0.7 cm, white, filaments long exserted, rose or purple. Drupe 6-8 mm in diameter, 4-grooved, yellow or orange, separating or not into two 2-seeded or four 1-seeded nutlets.

General distribution: Greater Antilles, Tobago.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Privet, prayer berry, privy hedge, pree-bree, amourette, thé bord de mer.

Notes: Spines develop from the persistent bases of the deciduous primary leaves. The spines may elongate, recurve and/or thicken. Axillary shoots general develop with noticeably smaller leaves.

Clerodendrum indicum (L.) Kuntze, Revis. Gen. Pl. **2:** 586. 1891.

Basionym: *Siphonanthus indica* L. Sp. Pl. **1:** 109. 1753.
Type: Not determined.
Syn.: *Clerodendrum siphonanthus* Aiton, Hort. Kew, ed. 2, **4:** 65. 1812. Illegitimate renaming of *S. indica* L.

Branching shrub to 2 m, branches 8-10 sulcate, subglabrate. Leaves whorled rarely opposite, petioles 4-8 mm long; blades lanceolate oblong or elliptic, 8.5-20 × 3-5.5 cm, base acute or rounded, apex acute or acuminate, membranous or thin chartaceous, glabrous. Inflorescence of axillary cymes, solitary or opposite or whorled, peduncles 2-4 cm long, terminal panicle thyrsoid, to 35 cm long, of 3 to 12 whorls of cymes; bractlets broadly linear, 5-15 mm long, 2-3 mm wide; calyx campanulate, 1.3-2 cm long, deeply 5-parted, lobes ovate to ovate-oblong, 6-10 × 5 mm, green to purplish; corolla salverform, tube slender, to 13 cm long, white or yellowish, curved, limb irregularly 5-lobed, lobes oblong or obovate, to 1.5 cm, recurved or reflexed; stamens unequal, exserted; fruiting calyx fleshy, enlarged, to 3 cm in diameter. Fruit globose, shorter than persistent calyx lobes, 8-10 mm wide, 4-lobed, with 4 or 5 pyrenes, blue-black.

General distribution: Native of Asia, frequently cultivated and escaped elsewhere in the tropics.

Distribution in Lesser Antilles: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

Common names: Herbe à long cou.

Clerodendrum philippinum Schauer *in* DC. Prodr. **11:** 667. 1847. (as *Clerodendron*)

Syn.: *Volkameria fragrans* Vent., Jard. Malm. **2:** *t. 70.* 1804. (Type: ibid *t. 70.*)
Clerodendrum fragrans var. *multiplex* Sweet, Hort. Brit. **1:** 322. 1827. (Type: Bot. Mag. pl. 1834.)
Clerodendrum fragrans var. *pleniflorum* Schauer *in* DC. Prodr. **11:** 666. 1847. (Syntypes cited.)

Shrub to 2.5 m tall, branches pubescent. Leaves opposite, on petioles 8-17.5 cm long, blades broadly ovate, deltoid, 10-22 × 5-20 cm, base cordate or subtruncate, apex sharply acute, margin coarsely and irregularly erose-dentate, membranous, pubescent on both surfaces. Inflorescence terminal, cymose, densely flowered, bracts numerous, foliaceous, oblong, 1.5-3 × 0.3-1.2 cm, calyx campanulate, 1-1.5 cm long, 5-cleft, the lobes lanceolate 4-10 mm long, sharply acuminate, reddish, corolla salverform, tube 1-1.2 cm long, lobes orbicular to oblong, to 1 cm long, usually fully double, white, pink or rose, stamens and pistil modified into petals. Fruit not seen.

General distribution: Native of tropical Asia. Widely cultivated, escaped and well established in the tropics.

Distribution in Lesser Antilles: Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

Common names: Moselle, stick bush, herbe à Madame Villaret.

Notes: Although generally completely sterile, this plant suckers freely and spreads rapidly by rhizomes and through the rooting of broken branches. For further information see Howard & Powell, Taxon **17:** 53-55. 1968.

Clerodendrum speciosissimum Van Geert ex Morren, Hort. Belge. **3:** 322, *pl. 68.* 1836 (as Clerodendron).

Type: *ibid. pl. 68.*
Syn.: *Clerodendron fallax* Lindl., Bot. Reg. **30:** 19. 1844. (Type: None indicated.)

Shrub to 2 m tall, branches obtusely quadrangular, often sulcate, pubescent. Leaves on petioles 10-20 cm long, blades broadly ovate, 10- 25 × 10-20 cm, base cordate, apex abruptly acute to acuminate, membranous, pubescent on both surfaces, cinereous or brown pubescent. Inflorescence terminal, paniculate, to 30 × 25 cm, bracteate, pedicels 5-9 mm long; calyx campanulate, 5-9 mm long, lobes ovate to deltoid, to 3 mm long acuminate; corolla hypocrateriform, tube 2 cm long, lobes obovate, 1.5 × 0.7 cm, red, reddish-orange to scarlet; stamens long exserted; fruiting calyx patelliform, 1 cm wide, puberulent, bright red. Drupe depressed globose, 5 × 7 mm, red turning black, deeply lobed, separating into 4 pyrenes.

General distribution: Native of Southeastern Asia but widely cultivated, escaping and persisting in tropical areas.

Distribution in Lesser Antilles: St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!.

CORNUTIA L.

Cornutia L., Sp. Pl. **2:** 628. 1753.

Trees or shrubs, branches tetragonous, pubescent. Leaves opposite, petiolate. Inflorescence terminal pyramidal-paniculate. Flowers zygomorphic; calyx cupuliform to campanulate, becoming patelliform in fruit; corolla salverform, irregular, tube slightly inflated at base, limb bilabiate, lobes 4, spreading, blue or purple; fertile stamens 2, exserted, staminodes 2, filaments pubescent; ovary of 2 bilocular carpels, ovules 1 in each locule, style terminal, pubescent, stigmas bilobed. Fruit subglobose, drupaceous, endocarp with 1 stone and 4 locules.

TYPE: *Cornutia pyramidata* L.

A genus of 10 species of tropical America.

Cornutia pyramidata L., Sp. Pl. **2:** 628. 1753. FIGURE 91.

Type: LINN 784.1.

Shrubs or small trees, to 5 m, stems strongly tetragonal, tomentose and with glistening glands. Leaves with petioles 1-2.3 cm long, blades elliptic to broadly ovate, 4-20 × 4-14 cm, base decurrent, apex acute or acuminate, pubescent on both surfaces but lighter below. Inflorescence terminal, paniculate, 10-30 cm long, branches cymose appearing secund, pedicels 3 mm long, calyx cupuliform becoming patelliform or cupular in fruit, 1-3 mm long; corolla tube 7-11 mm long, curved, blue to purple, densely pubescent, lobes unequal, lower lip half as long as upper; stamens 2, exserted, recurved. Fruit subglobose, 3-6 mm long, black, pubescent, with 1 ribbed 4-locular stone and central cavity.

GENERAL DISTRIBUTION: Greater Antilles, Central America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Bois casava, bois pou-poule, bois caral, bwa kasav.

DURANTA L.

by R. Sanders

Duranta L., Sp. Pl. **2:** 637. 1753.

Shrubs or small trees; twigs subquadrangular, bearing spiniform spreading thorns. Leaves opposite, ternate or subalternate, short-petiolate, chartaceous to coriaceous, non-rugose, glabrous to puberulent, entire to coarsely serrate. Inflorescence a few- to many-flowered terminal panicle. Calyx tubular, plicate with 5 prominent, thickly rounded ribs extending beyond the mouth as deltoid-apiculate teeth, in fruit yellow-orange, accrescent, enclosing drupe or nearly so, fleshy and indehiscent or coriaceous and somewhat splitting away at maturity. Corolla zygomorphic, more or less salverform with 5 spreading unequal lobes, blue-lavender, rarely white; tube cylindric, medially more or less incurved. Stamens 4, didynamous, included. Fruit drupaceous, yellowish, endocarp of four adherent 2-seeded pyrenes.

TYPE: *Duranta erecta* L.

About 17 species in mostly scrub areas from Florida to Texas and south to Argentina, often cultivated for showy flowers and fruits. For further information see Sanders, Sida **10:** 308-318. 1984, and Bromley, Kew Bull. **39:** 803. 1984.

KEY TO THE SPECIES

Leaf blades ovate, elliptic or oblanceolate, rounded or acute at the apex; inflorescence not pendulous, comprising usually 6 to 20 racemose axes........... *D. erecta*

Leaf blades mostly lanceolate, long attenuate at apex; inflorescence pendulous, comprising 3 to 5 racemose axes............................. *D. stenostachya*

Duranta erecta L., Sp. Pl. **2:** 637. 1753. FIGURE 92.

Lectotype: West Indies, Plumier, Pl. Amer. **4:** 40, *pl. 79.* 1756.
Syn.: *Duranta repens* L., Sp. Pl. **2:** 637. 1753. Type: LINN 806.2.
Duranta plumieri Jacq., Select. Stirp. Amer. Hist. 186, *t. 176, f. 76.* 1763. (Type: ibid. *t. 176, f. 76.*)

Branched shrub or small tree, to 6 m tall, stems with distichous leaves, with or without distichous thorns, usually without short shoots; thorns, usually much shorter than leaves not bearing subsidiary thorns. Leaves hardly ever fascicled on short shoots; petioles 8-12 mm; blades ovate to obovate, 2-8 × 1-2.5 cm, base cuneate, apex rounded or acute, entire or serrate, not revolute. Inflorescences mostly 10-30 cm long, of more than 5 racemose axes, these 5-10 cm long, stiff and spreading, arching or recurved, most flowers subtended by linear bracts, 1-3 mm long; calyx 4-7 mm long, puberulent to pubescent on or between the ribs. Fruit obpyriform 5-8 mm long and in diameter, with straight to strongly twisted beak, 0.5-2 mm long, orange.

GENERAL DISTRIBUTION: Subtropical United States, Greater Antilles, Mexico, Central America and South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

COMMON NAME: Pigeon berry.

Duranta stenostachya Todaro, Nou. Gen. Nov. Sp. Palermo 26. 1860.

Type: Martinique, ibid *pl. 3.*

Shrub or small tree to 2.5 m tall; branches slightly 4-angled; petioles 1 cm long; blades ovate-lanceolate to narrowly lanceolate, 6-13 × 3.5-4 cm long, base rounded, apex long-attenuate. Inflorescences mostly 15-45 cm long, consisting of only 3 to 5 racemose axes, these 10-40 cm long, thin and laxpendulous, pedicels 4 mm long; calyx 5 mm long, subtruncate with short teeth, corolla tube 8 mm long, lobes 5 mm long. Fruit globose, 1 cm in diameter, enclosed in yellowish beaked calyx.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Dominica!, Martinique!.

LANTANA L.

by R. Sanders

Lantana L., Sp. Pl. **2:** 626. 1753.

Hermaphroditic shrubs. Twigs quadrangular to subterete, sometimes with thorns or prickles. Leaves opposite or ternate, petiolate, membranous, often rugose, sparsely to densely hirsute or pilose, crenate or serrate. Inflorescence pedunculate, compressed, flat- topped spike in some becoming elongate in fruit; bracts entire, subulate to broadly ovate; calyx short-tubular, 2- to 4-toothed, accrescent in fruit, strongly appressed to and completely enclosing the drupe, thin, hyaline and often shredding, corolla zygomorphic more or less salverform with 4 spreading unequal lobes, yellow, red, lavender or white, persisting, older flowers often darker color, tube inflected and dilated medially; stamens 4, didynamous, included, ovary 2-locular, ovules 1 per locule, style short, stigma oblique. Fruit drupaceous, endocarp obovoid or oblate-bilobed, often splitting into two 1-seeded pyrenes.

Lectotype: *Lantana camara* L., vide N. L. Britton in Fl. Bermuda.

A genus of about 50 species from the Antilles, Mexico to northern Argentina, naturalized in Old World tropics. An obnoxious weed in several areas. Many subspecific taxa have been described as varieties, formae or cultivars (see Moldenke, Phytologia **45:** 276. 1980). These names are too numerous to cite completely and none is typified by material directly from the Lesser Antilles. For further information see Howard, Arnoldia **29:** 73-109. 1969.

Key to the Species

1. Corolla yellow, orange or red, rarely white or pink; receptacle of inflorescence rachis fistulose, dilated relative to peduncle; drupes blue-black; endocarp inflated with large hollow central chamber separating and many times larger than seed cavities.
    2. Hairs on abaxial surface of leaf blades restricted mostly to primary, secondary and tertiary veins, sparse and somewhat remote from one another, tapering conical, geniculate toward base with distal 2/3 held parallel to laminar or vein surface.

3. Leaf blade 1.2-1.6 × longer than wide, base mostly truncate or cordate; adaxial surface at maturity scabrous or strigose, more or less dull, moderate green, hairs stout, usually persistent, scattered over whole surface; abaxial surface lighter green, thinly or moderately strigose on veins, hairs stout, antrorse but with tip held above surface, the secondary and higher orders of veins keeled .... *L. camara*

3. Leaf blades ca 1.7-2.5 × longer than wide, base mostly attenuate; adaxial surface at maturity lustrous, dark green, smooth, the hairs small, weak and often deciduous, restricted to veins and one in the center of each areole; abaxial surface pale gray-green, almost glabrous, the hairs weak, strongly appressed to the surface, secondary and high order of veins weakly or not at all keeled .... *L. hodgei*

2. Hairs on abaxial surface of leaf blades usually occurring on all veins including aerolar veinlets and often on non-innervated laminar tissue, usually abundant and crowded, at least along crevice between major veins and laminar surface, filiform (or also gland-tipped), slender, not geniculate toward base but spreading from vein surface or erect on laminar surface .... *L. urticifolia*

1. Corollas pale purple or white; receptacle or inflorescence rachis not fistulose, about same diameter as peduncle; drupes pink-purple or white; endocarps not inflated, seed cavities separated only by a line or sheet of degenerative tissue.

4. Inflorescence indeterminate and rachis continuing to elongate, producing new flowers distally.

5. Leaves usually ternate, blades lanceolate with attenuate apices, subrugose or hardly rugose; bracts narrowly ovate or lanceolate .... *L. trifolia*

5. Leaves usually opposite, blades ovate or broadly elliptic, deeply rugose; bracts broadly elliptic or broadly ovate .... *L. radula*

4. Inflorescence determinate with rachis not elongating nor producing new flowers distally.

6. Petioles 3-5 mm long; leaf blades deeply rugose, the rugae about 0.3 mm across, square, forming a dense checkerboard pattern, teeth about 10-20 per side, spreading, rounded .... *L. involucrata*

6. Petioles mostly 1-2 mm long; leaf blades shallowly to moderately rugose, the rugae 0.5-1 mm across, often rectangular, forming parallel bands nearly perpendicular to long axis of leaf, teeth 6-10(-12) per side, ascending, blunt to acute .... *L. reticulata*

Lantana camara L., Sp. Pl. **2:** 627. 1753.

Lectotype: LINN 783.4 ex Moldenke.
Syn.: *Lantana aculeata* L., Sp. Pl. **2:** 627. 1753. (Lectotype: LINN 786.6 ex Moldenke.)
Lantana camara L. var. *aculeata* (L.) Mold., Torreya **74:** 9. 1934.
Lantana antillana Raf., Sylv. Tellur. 82. 1838. (Type: Not designated.)

Strict to lax, branched, erect or rounded shrub to 3 m tall, twigs hirtellous or hispid, angled, with or without prickles. Petioles 5-10 mm long, blades cordate to ovate, 3-10 × 2-4.5 cm, mostly 1-1.6 times longer than wide, base acutely narrowing or abruptly rounded to a cuneate base; apex acuminate, moderately rugose between higher orders of veins, dull above; hairs above 0.5 mm or less, scattered, antrorse, conical, often from pustulate bases; hairs below usually 0.5 mm or less, stout, attenuately conical, geniculately antrose but not appressed, not deciduous, usually restricted to and scattered on midrib, secondary and tertiary veins, sessile glands green or not visible with hand lens; teeth 15 to 25 per side, obtuse to short- acuminate, not revolute. Inflorescences 2-3 cm in diameter; peduncles 2-10 cm long, receptacle fistulose; bracts (excluding outer single series) mostly 3-8 mm long, subulate, long-triangular or narrowly lanceolate, apically attenuate, puberulent or hirtellous abaxially only, deciduous in fruit. Calyx 3 mm long, thin, corolla yellow, orange-red, white, or pink-purple with yellow throat, tube 7-12 mm, slightly curved, limb 6-10 mm. Drupe ca. 5 mm across, blue-black, endocarp obovoid, inflated.

General distribution: Greater and Lesser Antilles, introduced into tropical and subtropical areas worldwide.

Distribution in Lesser Antilles: St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada, Barbados!.

Common names: Lantana, mille fleurs, sauge.

Notes: *Lantana camara* may be entirely introduced and naturalized in the Lesser Antilles. It hybridizes easily with other orange-flowered species. The hybrid *L. camara* × *L. urticifolia* has both the geniculate stout hairs of *L. camara* and the slender straight hairs of *L. urticifolia* mixed on the undersurface of the leaf blades.

Lantana hodgei Sanders, J. Arnold Arb. **68:** 343. 1987.

Type: Dominica, *Fosberg 48269* (holotype, US).

Subscandent shrubs to 3 m tall, usually without prickles, twigs weakly strigose, angled. Petioles 10-25 mm long; blades ovate, or elliptic-lanceolate, 5-13 × 3.5-4.5 cm, mostly 1.7-2.5 times longer than wide, base short attenuate, apex abruptly acuminate, non-rugose, lustrous above; hairs above ca. 0.4 mm long (to 0.8 mm on veins), antrorse, conical, very sparse, restricted to midrib, secondary veins and center of major areoles (one hair per areole), often deciduous; hairs below 0.1-0.5 mm long, weak, narrowly attenuately conical, geniculate toward base, antrorse, strongly appressed, very sparse, restricted to midrib, secondary and tertiary veins, often deciduous, sessile glands lacking; teeth 20-40 per side, acute, not revolute. Inflorescence 2-3 cm across, peduncles 2-5 cm long; receptacle fistulose, bracts (excluding single outer series) ca. 5 mm long, narrowly lanceolate, apically attenuate, deciduous in fruit, sparsely hirsute abaxially only, the hairs strongly appressed. Corolla orange to red (sometimes dull pink), tube 5-8 mm long; limb ca. 6 mm long. Drupes 3-5 mm across, black; endocarps obovoid, inflated.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Dominica!, Martinique!.

Notes: Hybrids with *L. urticifolia* are known from Dominica in disturbed areas.

Lantana involucrata L., Cent. Pl. **2:** 22. 1756. FIGURE 93.

Lectotype: LINN 783.3, here chosen.
Syn.: *Lantana odorata* L., Syst. Nat. ed. 12, **2:** 418. 1767. (Type: Not indicated.)
Lantana involucrata L. var. *odorata* (L.) Mold., Phytologia **2:** 53. 1941.

Erect or ascending rather stiff shrub, 1-2 m tall; twigs puberulent or glabrescent, becoming subterete and corky with age, not prickly. Petioles 3-5 mm long; blades rotund, ovate, elliptic or narrowly elliptic-oblong, 1-4(-6) × 1-2.5 cm, mostly 1 to 3 times longer than wide, base cuneate to rounded or occasionally truncate; apex blunt or rounded, deeply rugose in conformity with areolar veins, the rugae ca. 0.3 mm across, dull above; hairs above 0.1-0.4 mm long, uniformly dispersed, antrorse, rather stiff, attenuate to filiform, hairs below 0.1-0.4 mm long, filiform, weak, very dense, appressed on the major veins, otherwise more or less curled, forming a tomentose indument, particularly as incurved ''roofs'' over the areoles, often obscuring the yellow or orange sessile glands on the laminar surface; teeth 10 to 20 per side, rounded, often revolute. Inflorescence 0.5-1.5 cm across, not elongating with age; peduncle 1-4 cm long; receptacle not fistulose; bracts 2-7 (-10) mm long, broadly ovate, ovate or lanceolate, apically obtuse, acute or attenuate, puberulent on both surfaces, persistent in fruit. Corolla white or pink-lavender, tube 3-7 mm long, limb ca. 5 mm long. Drupe pink-purple, 3-4 mm across; endocarp oblate-bilobate, not inflated.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico south to northern South America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, the Grenadines!, Grenada!, Barbados!.

NOTES: The plants from the Lesser Antilles with narrow leaves and attenuate bracts have been referred to as *L. involucrata* var. *odorata* (L) Moldenke. This morphological form merges with a broader leaved form in the Virgin Islands and the rotund-leaved form (var. *involucrata*) that is common in the Greater Antilles, Bahamas and Florida. The latter form also occurs on Grenada and nearby islands. Further research may show that var. *odorata* should be recognized as a separate species.

A specimen from Anguilla (*Howard & Kellogg 20106* A, FTG) is very diminutive in height, leaf size and inflorescence structure. This may represent one of the segregate species from the Greater Antilles such as *L. exarata* Urban & Ekman.

Lantana radula Sw., Prodr. 92. 1788.

Type: *Swartz s.n.*

Erect or ascending shrub to 1 m tall; twigs hispid or scabrous, becoming subterete with age, not prickly. Petioles 3-7 mm long; blades ovate to broadly elliptic, 2-8 × 2-5.5 cm, 1.3-1.8 times longer than wide; base cuneate to acute, apex blunt to acute, deeply rugose in conformity to areolar veins, the rugae ca. 1 mm across, dull above; hairs above 0.1-0.5 mm long, rigid, antrorse, attenuately conical; hairs below 0.4-0.8 mm long, mostly spreading, including ones on major veins, flexuous or stiff, filiform, more or less restricted to veins, usually not obscuring the numerous orange sessile glands on laminar surface; teeth 15 to 20 per side, blunt to acute, revolute. Inflorescences 1.5- 2.5 cm across, elongating with age, peduncle 2-5 cm long, receptacle not fistulose; bracts 4-10 mm long, broadly elliptic, apically attenuate or acuminate, pilose on both surfaces, persistent in fruit. Corolla white or pale pink; tube 6-9 mm long, limb ca. 8 mm long. Drupe ca. 4 mm across, pink-purple; endocarp oblate-bilobate, not inflated.

GENERAL DISTRIBUTION: Lesser Antilles south to Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, St. Lucia!, St. Vincent!.

Lantana reticulata Pers., Syn. Fl. **2:** 141. 1806.

Type: Hispaniola, *Turpin.*

Ascending or spreading shrub 0.3-1 m tall; twigs strigillose-puberulent or glabrescent, becoming subterete and corky with age, not prickly. Petioles 1-2 (-4) mm long; blades ovate or elliptic-oblong, 1-3 × 1-2 cm, mostly 1.5-2.5 times longer than wide, base rounded to cuneate, apex blunt to acute, rugose in conformity to areolar veins or tertiary veins, the rugae mostly rectangular, 0.5-2 mm long, dull above; hairs above 0.1-0.5 (-0.9) mm long, uniformly dispersed, antrorse, mostly filiform; hairs below 0.2-0.5 (-0.8) mm long, weak, filiform, dense, appressed and straight on major veins, spreading and flexuous on minor veins and lamina, not obscuring the sessile orange glands on laminar surface; teeth mostly 6 to 12 per side, blunt to acute, revolute. Inflorescence 0.5-1.5 cm across, not elongating in age; peduncle 1-2 cm long; receptacle not fistulose; bracts 2-9 cm long, broadly ovate, ovate or elliptical, apically acute or acuminate, puberulent on both surfaces, persistent in fruit; corolla pink-lavender; tube 3-5 mm long, limb ca. 4 mm long. Drupe ca. 3 mm across; pink-purple; endocarp oblate-bilobate, not inflated.

GENERAL DISTRIBUTION: Greater Antilles, Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Barts, St. Lucia, St. Vincent, the Grenadines!, Grenada!, Barbados.

NOTES: Further study is needed to clarify the status of the specimens of *L. reticulata* in the Lesser Antilles as they do not entirely match those of Hispaniola.

Lantana trifolia L., Sp. Pl. **1:** 626. 1753.

Type: Not determined.

Erect shrub to 1 m tall, twigs hispidulous or glabrescent, becoming subterete in age, not prickly. Petioles 2-5 mm long; blades lanceolate-elliptic, 3-14 × 3-4 cm, ca. three times longer than wide, base rounded and broadly decurrent to the petiole, apex attenuate, subrugose although reticulations evident above, dull above; hairs below 0.2-0.7 mm long, appressed, rigid, attenuately conical; hairs below 0.2-0.5 mm long, dense, appressed on major veins, rigid and attenuately conical, on minor veins and lamina mostly soft, erect and filiform, usually not obscuring the orange sessile glands on laminar surface; teeth 20 to 30 per side, mostly acute, revolute or not. Inflorescence 1-2 cm across, elongating into spikes with age; peduncles 2-4 cm long, receptacle not fistulose; bracts 3-7 mm long, lanceolate or elliptic, apically caudate, hirtellous abaxially and somewhat so adaxially, persistent in fruit. Corolla pink or lavender; tube 4-8 mm long; limb 5-7 mm long. Drupe ca. 4 mm across, pink-purple; endocarp oblate-bilobate, not inflated.

GENERAL DISTRIBUTION: Greater Antilles, Central America to northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Vincent!, Barbados!.

NOTES: Both Lesser Antillean records may have been from plants under cultivation.

Lantana urticifolia Miller, Gard. Dict. ed. 8, *Lantana* no. 5. 1768.

Type: Mexico, *Houston s.n.* (BM).
Syn.: *Lantana crocea* Jacq., Pl. Hort. Schoenbr. **4:** *t. 473.* 1804. (Type: Jamaica, ibid. *t. 473.*)
Lantana moritziana Otto & Dietr., Allg. Gartenzeit. **47:** 369. 1841. (Type: Venezuela, *Moritz s.n.*)
Lantana arida Britton, Bull. Torrey Bot. Club **37:** 357. 1910. (Type: Jamaica, *Britton & Hollick 1824* (holotype, NY).)

Erect, arching or subscandent shrubs, to 3 m tall; twigs pubescent or hirtellous, angled, prickly or not. Petioles to 10 mm long; blades ovate, lanceolate or long-triangular, 1-7 × 2.5-4 cm, mostly 1.5-2.5 times longer than wide, base rounded to subtruncate, apex acute or acuminate, usually not rugose, more or less dull above; hairs above 0.1-1.5 mm long, antrorse, conical, often from pustulate bases, scattered; hairs below mostly 0.3 mm long or less, weak, erect from surface, or sometimes greatly incurved, slender, filiform (sometimes with glandular tips), usually dense and uniform over entire laminar surface, often forming a felt-like indument, sessile glands green or not visible with hand lens; teeth 6 to 30 per side, obtuse, revolute or not. Inflorescence mostly 2-3 cm in diameter, peduncles 1-7 cm long; receptacles fistulose; bracts mostly 3-10 mm long, elliptic, oblong- linear, narrowly ovate, or subulate, apically attenuate or abruptly rounded at very tip, setose to pubescent, abaxially and sometimes adaxially. Corolla yellow to orange or red; tube 5-12 mm long, limb 4-10 mm long. Drupe blue-black, 3-5 mm across; endocarp obovoid, inflated.

GENERAL DISTRIBUTION: Cuba, Mexico, Central America and south to Argentina.

DISTRIBUTION IN LESSER ANTILLES: St, Martin!, St. Barts, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Redonda!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

NOTES ON EXCLUDED TAXA

Plants identified as *L. fucata* Lindl. var. *antillana* Moldenke (Type: Jamaica, *Periston 12*) occur on Dominica, Guadeloupe and nearby islands. These are morphologically intermediate between *L. involucrata* and *L. radula* and represent possible hybrids.

Lantana canescens H.B.K., a species closely related to *L. reticulata* or *L. trifolia*, occurs in Venezuela, Trinidad and Tobago, and may be expected in the Lesser Antilles. It is distinguished by slightly elongating inflorescences, narrowly attenuate bracts, lanceolate attenuate leaves with sericeous upper surfaces and pale green, canescent-tomentose undersurfaces.

Lantana montevidensis (Spreng.) Briq., native to southern Brazil and Uruguay, has been reported from Barbados, presumably an escape from cultivation. It is similar to *L. reticulata* in leaf shape and indument, in inflorescence structure, and in flower color; it differs by having a very weak, trailing stem. Garden forms are usually sterile.

LIPPIA L.

Lippia L., Sp. Pl. **1:** 633. 1753.

Herbs, trailing or erect, or shrubs, twigs glabrous or pubescent. Leaves opposite or ternate, petiolate, entire, toothed or lobed. Inflorescences spicate or capitate, solitary and axillary or aggregated into terminal corymbs or panicles; flowers perfect, small, sessile; calyx membranous; corolla tube cylindric, limb oblique, somewhat 2-lipped; stamens 4, didynamous, inserted on corolla tube; ovary 2-celled, ovules 1 per locule; style short. Fruit dry, included in calyx, separating into 2 pyrenes.

TYPE: *Lippia americana* L.

A genus of about 400 species of tropical America. The herbaceous species are often separated as the genus *Phyla* Lour. *Lippia micromera* Schauer has been cultivated on Dominica.

KEY TO THE SPECIES

1. Shrubs; peduncles less than 2 cm long, shorter than the leaves....... *L. alba*
1. Shrubs; spikes on elongating peduncles usually exceeding 2 cm.
    2. Leaf blades ovate or rhombic-ovate; calyx with fine line of hairs on each keel .... *L. strigulosa*
    2. Leaf blades linear-oblong, cuneate-oblong, spathulate or cuneate-obovate.

3. Leaf blade linear-oblong, coarsely dentate along whole margin, 10 to 18 pairs of lateral veins prominent. . . . . *L. stoechadifolia*
3. Leaf blades thick spathulate to cuneate-obovate, usually dentate only above the middle, veins 5 or 6 pairs more or less obsolete . . . . *L. nodiflora*

Lippia alba (Miller) N. E. Br. *in* Britton & Wilson, Bot. Porto Rico **6:** 141. 1925.

Basionym: *Lantana alba* Miller, Gard. Dict. ed. 8, no. 8. 1768.
Type: Not determined.
Syn.: *Lippia geminata* var. *microphylla* Griseb., Fl. Brit. W. Indian Is. 495. 1861. (Type: Syntypes cited.)

Shrub to 1 m high, much-branched, stems slender, pubescent. Leaves opposite or ternate, on petioles 3-8 mm long; blades ovate or oblong, 2-7 × 1.2-2.3 cm, base cuneate or narrowed, apex acute or obtuse, serrate on margins except at base, strigose-hirtellous to rugose, densely short pubescent or tomentose with cinereous hairs below. Inflorescence axillary, capitate, solitary or rarely paired in upper leaf axils, heads subglobose, 8-16 mm long; bracts ovate, 3-5 mm long, calyx 2-toothed, corolla tube 4.5 mm long, rose, purple, violet or white with yellow eye. Fruit of 2 indehiscent nutlets, each 1-seeded, brown.

GENERAL DISTRIBUTION: Greater Antilles, Texas, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Martinique!, St. Lucia!, Grenada!.

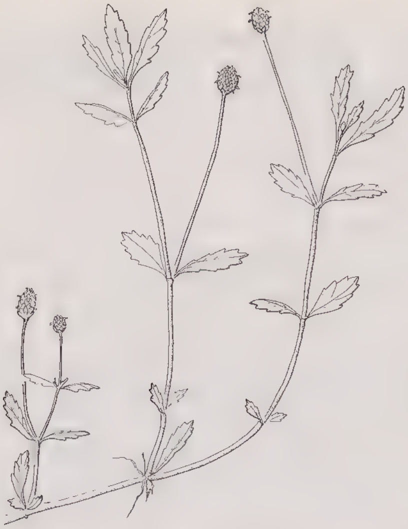
COMMON NAMES: Sauge de Bréil, sauge de la Barbade, thé de Chine, twa tas.

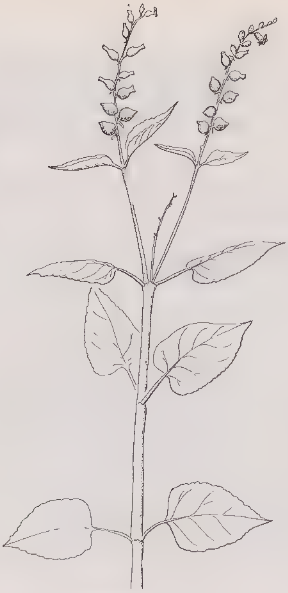
NOTES: Extremely aromatic plant with leaves used widely as a tea for medicinal purposes.

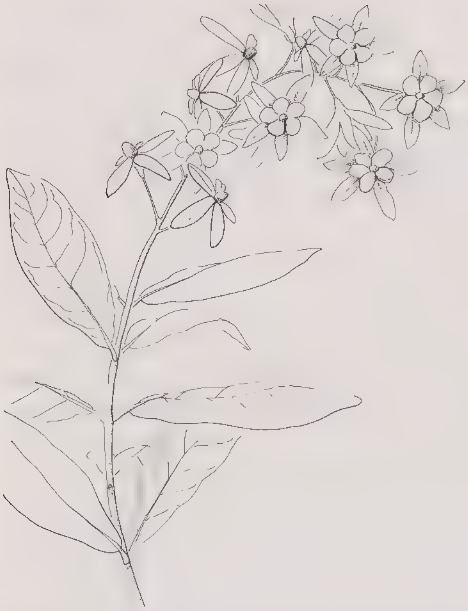
Lippia nodiflora (L.) Michx., Fl. Bor. Amer. **2:** 15. 1803. FIGURE 94.

Basionym: *Verbena nodiflora* L., Sp. Pl. **1:** 20. 1753.
Type: "Virginia", Clayton 448 (LINN) ex Mold.
Syn.: *Phyla nodiflora* (L.) Greene, Pittonia **4:** 46. 1899.
Phyla nodiflora var. *antillana* Mold. Phytologia **40:** 468. 1978. (Type: St. Croix, *Britton, Britton & Kemp 83* (holotype, NY).)

Herbaceous creeping or trail plants, rooting at the nodes and often forming dense mats; stems to 1 m long, strigillose or glabrate. Petioles 2-8 mm long; blades spathulate, oblanceolate or cuneate-obovate, 1-4 × 0.6-1.2 cm, base cuneate, apex rounded or obtuse, margin dentate above the middle; strigillose with malpighiaceous hairs. Inflorescence solitary in leaf axils, globose then elongating to 1-2 cm long, 6-9 mm thick; bracts purplish, closely imbricate; calyx deeply 2-cleft, bicarinate with line of fine hairs on each keel, lobes lanceolate; corolla 2-4 mm long, white or purplish. Fruit dry, 2 mm long, splitting into two 1-seeded nutlets.







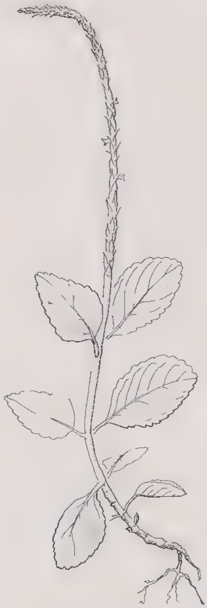


FIGURE 94 (upper left). *Lippia nodiflora*: × 0.3. FIGURE 95 (upper right). *Priva lappulacea*: × 0.3. FIGURE 96 (lower left). *Petrea kohautiana*: × 0.3. FIGURE 97 (lower right). *Stachytarpheta jamaicensis*: × 0.3.

General distribution: Southern United States, Greater Antilles, Mexico, Central America through South America, introduced in Old World.

Distribution in Lesser Antilles: St. Barts, Barbuda, Antigua!, Montserrat, Guadeloupe!, Martinique!, the Grenadines!, Grenada, Barbados.

Common names: Verveine courante.

Lippia stoechadifolia (L.) H.B.K., Nov. Gen. Sp. Pl. ed. quarto **2:** 265. 1818, ed. fol. **2:** 214. 1818.

Basionym: *Verbena stoechadifolia* L., Sp. Pl. **1:** 19. 1753.
Type: Not determined.
Syn.: *Phyla stoechadifolia* (L.) Small, Bull. Torrey Bot. Club. **36:** 162. 1909.

Erect shrub or spreading, stems strigose. Petioles obsolete; blades oblong-linear, 2-10 × 0.3-1 cm, base cuneate, apex acute, thick, margins serrate-dentate, strigose both surfaces, veins conspicuous below, 10-14 pairs. Peduncle solitary in leaf axils, usually longer than leaves; spikes globose, becoming oblong, 2-3 cm long, 0.5-0.7 cm thick; bracts cuneate-obovate; calyx bicarinate with lines of very fine hairs on each keel, 2-2.5 mm long; corolla 2.5-3.5 mm long, white or purplish.

General distribution: Florida, Greater Antilles, Mexico, Central America, northern South America.

Distribution in Lesser Antilles: Antigua!, Guadeloupe!.

Common name: Guimauve, thé de Chine.

Lippia strigulosa Martens & Galeotti, Bull. Acad. Roy. Sci. Brux. **11:** 310. 1844.

Type: Not determined.
Syn.: *Phyla strigulosa* (Martens & Galeotti) Mold., Phytologia **2:** 233. 1947.
Lippia reptans sensu authors W. Indian floras not *L. reptans* H.B.K.

Weedy trailing herb, rooting at nodes, branches 20-50 cm long, appressed strigillose. Petioles 5-10 mm long, blades spatulate, or obovate-cuneate, 2-6 × 0.3-3 cm, base cuneate, apex obtuse or acute, with 4 pairs of coarse teeth on distal two thirds of leaf margin, veins subprominent. Inflorescence capitate, 0.7-2 cm long, solitary on peduncles 4-5 cm, bracts closely imbricate, short acuminate, ciliate on margins; calyx compressed, split abaxially to base, pubescent along lateral ribs, purplish; corolla white fading to pink.

General distribution: Greater Antilles, Mexico, Central America, northern South America.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Antigua!, Guadeloupe! La Désirade!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

PETREA L.

Petrea L., Sp. Pl. **2:** 626. 1753.

Shrubs, trees or woody vines. Leaves opposite or whorled, deciduous, rigid, generally rough pubescent. Inflorescence racemose, terminal or axillary, elongate, bracts small. Flowers pedicellate, perfect, calyx gamosepalous, regular, tube cylindric or campanulate, with membranous calicinal teeth alternating with 5 lobes, the lobes blue, violet or purple; corolla salverform, slightly irregular, 5-lobed, deciduous, lobes shorter than calyx; stamens 4, didynamous, inserted on corolla tube; ovary subglobose, 2-loculed, ovules 1 in each locule, style stout, stigma bilobed. Fruiting calyx lobes accrescent, fruit drupaceous, enclosed by calyx, pyrenes 2.

TYPE: *Petrea volubilis* L.

A genus of about 40 poorly defined species of tropical America. For further information see Moldenke, Repert. Spec. Nov. Regni Veg. **43:** 1-48, 161-221. 1938; Phytologia **42:** 289-291. 1979.

Petrea kohautiana Presl, Bot. Bemerk. 99. 1845. FIGURE 96.

Type: Martinique, *Kohaut*, distributed as Sieber, Fl. Mart. 157 (Prague), isotype (GH).
Syn.: *Petrea volubilis* Jacq., Select. Stirp. Amer. Hist. 180, 181, t. 114. 1763, not L.
Petrea volubilis var. *alba* Freeman & Williams, Useful Ornam. Pl. Trin. 127. 1928. Type: No specimens cited.
Petrea kohautiana var. *anomala* Moldenke, Fedde Rep. **43:** 31. 1938. Type: Trinidad, *Broadway s.n.* (May 1911, holotype NY).
Petrea kohautiana var. *alba* (Freeman & Williams) Moldenke, Fl. Trin. **2**(6): 400. 1955.

Woody vine, stems gray, obtusely tetragonal, puberulent or glabrate. Leaves on petioles 1-8 mm long, these often hidden by clasping cordate leaf-base; blades elliptic, 8.5-20.5 × 5.2-12 cm, base acute to rounded or cordate, apex rounded, obtuse or emarginate, scabrous. Inflorescence terminal, racemose, 16-58 cm long, pedicels 1.3-3.8 cm long; calyx tube campanulate, 7 mm long, 5-ribbed, puberulent or glabrate, lobes 5, oblong, 1.5-1.7 × 0.5 cm, obtuse, with crests of triangular-ovate lobes, 1 mm long; corolla tube cylindrical, 7 mm long, short pubescent outside, pilose inside, limb rotate, 5-parted, anterior lobe largest, 7 × 7.5 mm, stamens 4, filaments 1.9-2 mm long, pilose; style 2 mm long. Fruiting calyx with firm stiff lobes to 2.5 cm long, 1.0 cm wide, fruit compressed globose, 5-7 mm dia, short stalked, brown.

GENERAL DISTRIBUTION: Restricted to Lesser Antilles and Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Antigua, St. Kitts, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent, Grenada!

COMMON NAMES: Montserrat wreath plant, liane rude, liane violette, liane Saint-Jean, liane à cercle, liane pente-cote, fleur de la fête de dieu.

NOTES: Moldenke accepted *P. volubilis* as a plant having the calyx tube densely covered with spreading hirsute or tomentose pubescence, while *P. kohautiana* has the calyx tube only puberulent. He suggested either species could have the leaves sessile, subsessile or distinctly petiolate. The distinction is not strong although the native Lesser Antillean populations tend to have broader and more elliptic leaves than does the material called *P. volubilis.* However the broader leaves also appear to be associated with shorter lateral shoots while the vigorous growth stems have narrowed leaves usually acute at the base. Moldenke also reported that the type of *P. volubilis* in the Clifford herbarium consisted of two fragments, one of a cultivated plant and the other a Houston collection either from Jamaica as a cultivated plant or from Veracruz, Mexico. Moldenke also indicated that the collection *Sieber 157*, the type of *P. kohautiana*, was also a mixed collection with one specimen (MO) being *P. volubilis* (Repert. Spec. Nov. Regni Veg. **43:** 41. 1938).

Petrea arborea H.B.K. (Nov. Gen. Sp. Pl. ed quarto **2:** 282, 283. 1818, and ed. fol. **2:** 228. 1817) can be distinguished by its tree form. *P. vincentiana* Turcz., Bull. Soc. Imp. Nat. Mosc. **36**(2): 212. 1863) based on a *Caley s.n.* collection from St. Vincent is considered a synonym. Anderson in his Hortus reported he obtained such a tree from Trinidad. The Caley collection was certainly from this plant cultivated in the St. Vincent Botanic Garden.

Anderson also reported he obtained the climbing form from the French, presumably his contacts in Martinique, in 1788 for the St. Vincent Botanic Garden. He reported (ca. 1800) it native to St. Lucia and Martinique and not to St. Vincent. Anderson also saw the white-flowered form on St. Lucia.

The infrequency of fruit in available specimens merits field investigation into the sexuality of this species.

Stehlé annotated several sheets with ''kohautiana'' given as a varietal name to *P. volubilis*, but this is apparently unpublished.

PRIVA Adans.

Priva Adans., Fam. Pl. **2:** 505. 1763.

Perennial, pubescent herbs. Leaves opposite, petiolate, thin, deciduous. Inflorescences racemiform or subspicate, terminal and axillary, erect. Flowers solitary in the axis of a small bract, calyx tubular, 5-ribbed or 5-plicate, with 4 short subequal teeth; corolla funnelform or salverform, irregular, tube cylindric, straight or curved, limb 2-lipped; stamens 4, didynamous, inserted on corolla tube, included, ovary 4-celled or only 2-celled, ovules 1 in each locule, style short, stigma 2-lobed. Fruit dry, often woody, schizocarp of 2 cocci.

TYPE: *Verbena lappulacea* L. = *Priva lappulacea* (L.) Pers.

A genus of about 20 species of tropical America, Africa and Asia. For further information see: Kobuski, Ann. Missouri Bot. Gard. **13:** 1-35. 1926, or Moldenke, Repert. Spec. Nov. Regni Veg. **41:** 1-76. 1936.

Priva lappulacea (L.) Pers., Syn. Pl. **2:** 139. 1806. FIGURE 95.

Basionym: *Verbena lappulacea* L., Sp. Pl. **1:** 19. 1753.
Type: LINN 35.5.
Syn.: *Priva echinata* Juss., Ann. Mus. Paris **7:** 69. 1806, illegitimate renaming of *V. lappulacea.*

Perennial herb to 1 m tall, stems spreading and decumbent, pilose pubescent with uncinate hairs. Leaves on slender petioles, 0.8-3 cm long; blades ovate to triangular, 1.4-14.5 × 0.9-8.5 cm, base subtruncate or subcordate, apex acute or acuminate, uniformly serrate in the middle, pilose or strigose above, puberulent below. Inflorescence racemose or spicate, to 20 cm long, bracteate, pedicels 1-1.5 mm long; calyx campanulate, 2-3 mm long, densely short tomentose with uncinate hairs and scattered straight hairs, 5-apiculate at apex; corolla tube 3.0-3.5 mm long, blue, pink violet, or purple. Fruiting calyx inflated, 5-7 mm long, densely uncinate hispidulous; cocci two, 2-celled, echinate on dorsal surface with two rows of short straight sharp spines; seed oblong, 3 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America, introduced to Africa and Asia.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Antigua!, Saba!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Collant, gendarme, dayi.

NOTES: The record of *P. mexicana* with non-echinate fruits from Martinique can not be verified. It may have been a cultivated plant.

STACHYTARPHETA Vahl

Stachytarpheta Vahl, Enum. Pl. **1:** 205. 1804, nom. cons.

Syn.: *Valerianoides* Medic., Phil. Bot. **1:** 177. 1789, nom. rejic. Type: *Verbena jamaicensis* L.

Herbs or low shrubs. Leaves opposite or alternate, petiolate, usually dentate, often rugose. Inflorescence terminal, spicate. Flowers sessile or semi-immersed in rachis of spike, solitary, bracteate; calyx tubular, 5-costate, 5-dentate, teeth equal; corolla hypocrateriform, tube cylindric, straight or curved, limb spreading, 5-lobes orbicular; stamens 2, anterior, inserted above the middle of the tube, included, staminodes 2, posterior; ovary 2-celled, ovules 1 in each locule, style elongate, stigma subcapitate. Fruit oblong-linear, included within calyx, splitting to 2 long hard 1-seeded cocci; seeds linear.

TYPE: *Verbena jamaicensis* L. = *Stachytarpheta jamaicensis* (L.) Vahl.

A genus of perhaps 60 species mostly of tropical America but widely introduced in the paleotropics. Many hybrids between "species" have been reported and described. The genus is sorely in need of critical study and re-evaluation.

CULTIVATED SPECIES

Stachytarpheta mutabilis (Jacq.) Vahl is cultivated on Montserrat and reported from Martinique.

KEY TO THE SPECIES

1. Shrubby plant, furrows about as broad as the slender rachis (1.5-2 mm thick); corolla light blue to nearly white, scarcely exceeding the calyx, bracts linear-subulate, less than 1 mm wide, corolla limb 5-6 mm across . . . . *S. cayennensis*
1. Herbaceous plants; corolla usually dark blue to violet, much exceeding the calyx; floral bracts ovate to lanceolate; spikes 2-4 mm broad.
    2. Floral bracts ovate-lanceolate, scariously margined mostly above the middle; leaf teeth obtuse . . . . *S. jamaicensis*
    2. Floral bracts lanceolate-subulate, scariously margined below the middle; leaf serrations acute . . . . *S. urticifolia*

Stachytarpheta cayennensis (L.C. Rich.) Vahl, Enum. Pl. **1:** 208. 1804.

Basionym: *Verbena cayennensis* L.C. Rich., Act. Soc. Hist. Nat. Paris **1:** 105. 1792.
Type: Cayenne, *Leblond 356.*
Syn.: *Stachytarpheta dichotoma* sensu Krause, Beih. Bot. Centralbl. **32:** 341. 1914, non DC.

Shrub 1-2.5 m tall, branches loosely pilose to glabrate. Petioles 5 mm long; blades ovate to elliptic, 3-7 × 1.6-2.4 cm, base narrowed or obtuse, apex obtuse or rounded, margin crenate-serrate with acuminate teeth, subscabrous above. Inflorescence rachis to 20 cm long, slightly thickened, 1.5-2 mm thick, furrows as broad as rachis, bracts narrowly linear or subulate, setaceous, acuminate or aristate; calyx 4 mm long; corolla salverform, tube 4 mm long, light blue or white. Fruiting calyx erect, half-immersed in furrow.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America, as a weed in the Old World.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Vervain, petit queue-de-rat, verveine lack, venven latjé wat.

Stachytarpheta jamaicensis (L.) Vahl, Enum. Pl. **1:** 206. 1804.
FIGURE 97.

Basionym: *Verbena jamaicensis* L., Sp. Pl. **1:** 19. 1753.
Lectotype: Jamaica, LINN 35.2 ex Mold.
Syn.: *Stachytarpheta marginata* Vahl, Enum. Pl. **1:** 207. 1804. (Type: Ind. Occ., *v. Rohr s.n.*).

Herb, 0.6-1.3 m tall, sparingly pubescent or glabrate, stems often purplish. Petioles 1-1.5 cm long, blades oblong, ovate, elliptic to rounded, 2-8 × 1.2-5 cm, base cuneate, apex obtuse or acute, margin coarsely serrate, glabrous or slightly pilosulous on both surfaces. Inflorescence 15-50 cm long, rachis 2.5-3 mm thick, furrows much narrower than rachis, bracts lanceolate to oblong-lanceolate, 5-6 × 2 mm; calyx compressed, 5 mm long, bifid; corolla salverform, tube 8-11 mm long, slightly curved, lobes to 8 mm, purple. Fruiting calyx completely immersed in axis. Fruit 3 mm long, brown, striate and pustulate.

GENERAL DISTRIBUTION: Southern United States, Greater Antilles, Mexico, Central America, northern South America and a weed in many tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Vervain, verveine caraïbe, verveine queue de rat, verveine lack, venven latjé.

Stachytarpheta urticifolia Sims, Bot. Mag. **43:** *t. 1848.* 1816.

Lectotype: *Swainson s.n.* (BM) as cultivated specimen, ex Mold.
Syn.: *Cymburus urticifolius* sensu Salisbury, Parad. Lond. *t. 58.* 1806, as to illustration but not as to type. Sims excluded the Linnean species.

Herb, glabrous or sparsely pilose. Leaves broadly elliptic, 5-8 × 3-5 cm, base broadly decurrent to the stem or to a slender petiole of 1 cm, apex acute, margin dentate, teeth acute, subdivergent. Spikes to 35 cm, bracts ovate-lanceolate, 6-8 × 1.5 mm, margined at the base; corolla much exceeding the calyx, violet. Fruit 3 mm long, brown.

GENERAL DISTRIBUTION: Lesser Antilles, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Rattail.

NOTES: Moldenke (in Dassanayake & Fosberg, Fl. Ceylon **4:** 257-9. 1983) concluded this was a native of tropical Asia. The white-flowered form, *S. urticifolia* f. *albiflora* Mold., is a locally prized cultivated ornamental on Guadeloupe and has been reported also from Martinique.

Stachytarpheta strigosa Vahl (Enum. **1:** 207. 1804) was reported by Britton & Wilson (Bot. Porto Rico **6:** 144. 1925) to occur on Antigua and St. Vincent. No such specimens have been seen and Moldenke suggested that the species does not occur in the Lesser Antilles.

TAMONEA Aublet

Tamonea Aublet, Hist. Pl. Guiane **2:** 659, *pl. 268.* 1775.

Syn.: *Ghinia* Schreb., Gen. 19. 1789. Type: *Tamonea spicata* Aublet.

Herbs or low shrubs, with stiff slender branches. Leaves opposite, subsessile, dentate or incised. Inflorescence spicate or racemose, terminal or axillary; calyx tubular, 5-ribbed, subtruncate or with short teeth; corolla salverform, tube cylindric, enlarged above, limb oblique, 5-lobed; stamens 4, didynamous, borne on the corolla tube, connective with gland-like appendage; ovary 4-celled, ovules 1 in each cavity, style short, stigma oblong. Fruit small, hard, mostly 4-horned, 4-celled.

TYPE: *Tamonea spicata* Aubl.

A genus of seven species of tropical America.

Tamonea boxiana (Moldenke) Howard, Phytologia **65:** 288. 1988.
FIGURE 98.

Basionym: *Ghinia boxiana* Moldenke, Known Geog. Distr. Verb. & Avicen. 77. 1942; Phytologia **47:** 416-419. 1981.
Type: Antigua, *Box 1091* (holotype not specified, isotype NY).
Syn.: *Tamonea spicata* sensu Urban Symb. Antill. **4:** 529, 1911, non Sw.
Ghinia spinosa sensu Britton & Wils., Bot. Porto Rico **6:** 139. 1925, non Willd.

Low stout woody stemmed much-branched shrub to 60 cm tall; branches clustered, slender, finely puberulent and scabrous. Leaves short-petioled or sessile; blades of lower leaves oblong, 0.8-1 × 0.3-0.4 cm, base cuneate, apex obtuse or ultimate tooth rounded, margin incised or pinnatifid, with 3-5 teeth, upper leaves linear, 1.2-1.5 × 0.1-0.4 cm, entire, or with single basal lobe, puberulent. Racemes terminal, slender, pedicels 1 mm long; calyx obconic, 2.5 mm long, 4 ribbed, teeth 0.5 mm long; corolla tube 4 mm long, lobes orbicular-oblong, 4 × 3 mm, purple or whitish, upper anthers with papillate appendages. Fruiting calyx with teeth 0.5 mm long; fruit dry, horns of glabrous shining fruit to 4 mm long, fruit 4-celled with a central cavity; seeds oblong, 1 mm long.

GENERAL DISTRIBUTION: Puerto Rico, Virgin Islands.

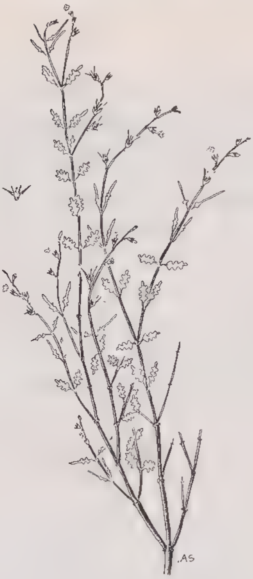
DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Antigua!.

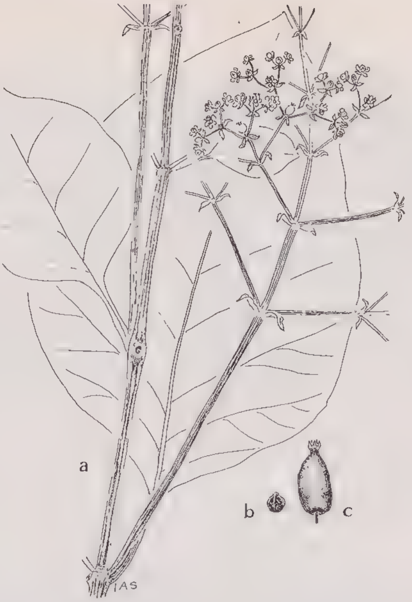
COMMON NAMES: Coast broom, crow broom.

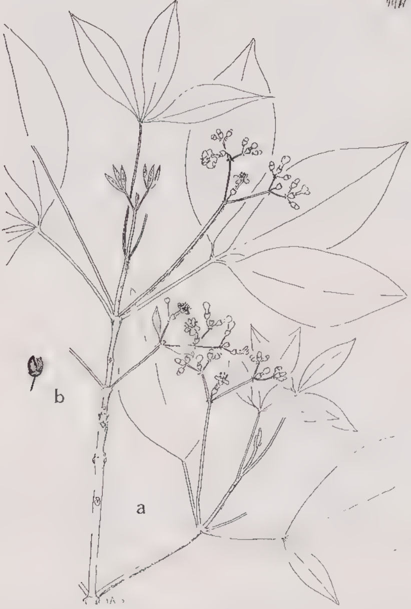
TECTONA L. f.

Tectona L. f., Suppl. 20, 151. 1782 (as *Tektona*), nom. cons.

Trees, branches tetragonal, pubescence stellate. Leaves opposite or ternate, short petiolate, large, entire, deciduous. Inflorescence terminal, massive panicle with branches cymose; flowers perfect, regular, sessile; calyx campanulate, 5-6-parted, accrescent and inflated in fruit; corolla hypocrateriform, tube cylindrical, short, lobes 5 or 6, subequal; stamens 5 or 6, inserted on corolla tube, exserted; ovary 4-loculed, ovules 1 in each locule, style filiform, stigma bifid. Drupe enclosed in enlarged calyx, endocarp stony, 4-celled.







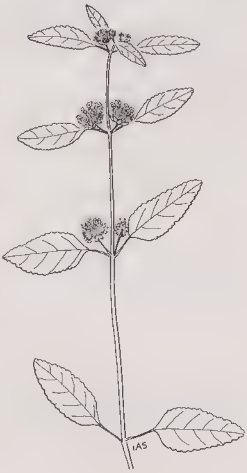


FIGURE 98 (upper left). *Tamonea boxiana*: × 0.35. FIGURE 99 (upper right). *Tectona grandis*: a, partial flowering shoot, × 0.35; b, seed, × 0.35; c, fruit, × 0.35. FIGURE 100 (lower left). *Vitex divaricata*: a, flowering shoot, × 0.35; b, fruit × 0.35. FIGURE 101 (lower right). *Hyptis atrorubens*: × 0.35.

TYPE: *Tectona grandis* L.f.

A genus of 4 species of S.E. Asia with *Tectona grandis*, the teak, introduced to many tropical countries.

Tectona grandis L.f., Suppl. 20, 151. 1782. FIGURE 99.

Type: India, *König s.n.* ex Mold.

Trees, to 10 m, branches tetragonal, strongly ridged or grooved, furfuraceous tomentose, nodes annular. Leaves subsessile, petioles wanting or to 5 cm long, blades oval-rhombic to broadly elliptic, 11-75 × 6-40 cm, base abruptly acute prolonged into winged petiole, apex short acuminate, margin entire or undulate, coriaceous, often rugose-bullate, pubescent. Inflorescence terminal, panicles to 40 × 30 cm; pedicels 1-4 mm long, bracteate; calyx 4-5 mm long, tomentose, 5-7-toothed, lobes ovate, 1.5-2.5 mm, reflexed; corolla hypocrateriform, tube 1.5-3 mm long, limb 5-7-parted, white, pubescent. Fruiting calyx to 2.5 cm long, inflated, chartaceous, light brown; drupe subglobose or tetragonal, often flattened, to 1.5 mm long.

GENERAL DISTRIBUTION: Native to S.E. Asia, introduced and persisting in the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Teak, teck, caracoli.

NOTES: Herbarium specimens (NY) from Barbados, St. Vincent, and Guadeloupe and Martinique have been annotated by Moldenke with different formae names referring to the pubescence. No place of publication has been located for these names. Since the plants have all been introduced into the Lesser Antilles, the distinctions have little value. Although much was expected of this tree when introduced to the Lesser Antilles as a timber tree, the plants have not flourished. Insects have often damaged the apical buds and young shoots. Distorted growth forms are common.

VITEX L.

Vitex L., Sp. Pl. **2:** 638. 1753.

Trees or shrubs, branches tetragonal. Leaves opposite, palmately compound, (1-)3-7-foliolate. Inflorescence in sessile or pedunculate axillary cymes or in terminal panicles. Flowers perfect, irregular; calyx campanulate, 5-dentate or 5-parted; corolla salverform, irregular, limb bilobed, upper bifid, lower trifid; white, blue, violet or yellowish; stamens 4, didynamous, inserted on corolla tube; ovary 2-celled becoming 4-celled, ovules 1 per locule, style filiform, stigma bifid. Fruiting calyx somewhat accrescent, fruit drupaceous, 4-celled; seeds oblong.

TYPE: *Vitex agnus-castus* L.

A genus of 250 species of tropical and temperate areas.

CULTIVATED TAXA

Older specimens from the Lesser Antilles identified or reported as *Vitex agnus-castus* are probably all *Vitex negundo.* Some have been reported by Moldenke as *V. negundo* var. *heterophylla* (Franch.) Rehd. or *Vitex negundo* var. *intermedia* (P'ei) Mold. *Vitex compressa* Turcz. was once cultivated at the Botanic Garden on Grenada. *Vitex cymosa* Bert. was reported to be cultivated on Martinique. *Vitex incisa* Lam. was reported in cultivation on Dominica and Martinique.

Vitex divaricata Sw., Prodr. 93. 1788. FIGURE 100.

Lectotype: St. Lucia, *Masson s.n.* (BM), designated by Howard 1982.

Trees to 20 m, bark often separating in strips, twigs sparsely puberulent. Leaves opposite, mostly 3-foliolate, petioles 1-8.5 cm long, leaflets usually very unequal, the central one larger, petiolules 1-8 mm long, blades broadly oblong, oblong-elliptic, or elliptic, 4.5-21 × 2.3-9 cm, base acuminate, apex acuminate or short caudate, thin chartaceous or membranous, glabrate. Inflorescence axillary, panicles cymose, divaricate, 5-14 cm long, usually 3 or 4-chotomous, each branch 6-31-flowered, cymes branches flattened, pedicels 1-3 mm long; calyx campanulate, 2 mm long, subtruncate; corolla tube 8-10 mm long, densely puberulent, violet or blue. Fruit obovoid-ellipsoid, 8-10 mm long, black, endocarp bony, 4-loculed.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, Marie Galante, Dominica!, Martinique!, St. Lucia!, St. Vincent, Grenada!, Barbados!.

COMMON NAMES: Bois-lézard, bois agouti, bwa léza, bois lezard.

LABIATAE

LABIATAE Juss., Gen. Pl. 110. 1789.

Herbs, rarely small shrubs, stems usually square. Leaves opposite or whorled, estipulate, simple, entire, toothed or variously dissected, usually with volatile oils. Inflorescence terminal racemes, but more often of condensed axillary cymes forming pseudo-whorls or these in terminal spikes or racemes with reduced leaves. Flowers perfect, or sometimes gynodioecious or gynomonoecious; calyx gamosepalous, usually 5-toothed, sometimes 2-lipped; corolla gamopetalous, limb usually bilabiate; stamens 4 or 2, didynamous or equal, borne on corolla tube, approximate to the upper or the lower lip or equally spreading; ovary of 2 carpels, but deeply 4-lobed, these sometimes elevated on a gynobase, ovules 1 in each locule, style gynobasic, arising between the lobes of the ovary; disc often present. Fruit splitting into four 1-seeded nutlets, dry, fleshy, or drupaceous.

TYPE: *Lamium* L.

A family of about 200 genera and 3200 species of cosmopolitan distribution.

KEY TO THE GENERA

1. Calyx with a crest (scutellum) on upper side, upper lip of calyx caducous; corolla 2-lipped, blue or red; stamens 4, ascending.......... *Scutellaria*
1. Calyx without a crest, the whole persistent.
  2. Stamens erect or ascending.
    3. Corolla strongly 2-lipped.
      4. Stamens 2; corolla blue or red.......... *Salvia*
      4. Stamens 4.
        5. Leaves deeply 3-parted, each lobed; flowers in axillary whorls, rose-purple.......... *Leonurus*
        5. Leaves simple, unlobed but variously toothed.
          6. Flowers orange, in conspicuous large axillary whorls, 4-6 cm in diameter; calyx lobes sharp prickly in fruit; upper corolla lobe much longer than lower.......... *Leonotis*
          6. Flowers white, in smaller axillary whorls; calyx lobes with delicate spines; corolla lobes nearly equal.......... *Leucas*
    3. Corolla very nearly regular; stamens 4, spreading; plants spreading by rhizomes; cultivated.......... *Mentha*
  2. Stamens declinate.
    7. Lower lip of corolla deflexed or saccate; calyx lobes equal.
      8. Nutlets with a membranous fimbriate wing; spreading herb.......... *Marsypianthes*
      8. Nutlets not winged; plants usually erect.......... *Hyptis*
    7. Lower lip of corolla flat or concave; calyx lobes unequal, calyx often two-lipped.
      9. Lower lip of corolla elongated; filaments fused at the base; mostly cultivated.......... *Plectranthus*
      9. Corolla lips nearly equal; filaments free, upper pair with hairy knee bend near the base.......... *Ocimum*

CULTIVATED TAXA

Hyssopus officinalis L. Currently cultivated on Montserrat.
Mentha × piperita L. Reported by Fournet to be cultivated.
Mentha pulegium L. Reported by Fournet to be cultivated.
Mentha spicata L. Represented by specimens from Montserrat.
Origanum marjorana L. Cultivated on several islands.
Orthosiphon aristatus (Bl.) Miq. Currently cultivated on Guadeloupe and Dominica.
Pogostemon cablin (Blanco) Benth. Cultivated on St. Lucia as patchouly.
Pogostemon heyneanus Benth. Reported by Fournet from the French islands.
Rosmarinus officinalis L. Reported in cultivation on Guadeloupe, Martinique, St. Lucia, and Barbados.

Satureja viminea L. Reported from Guadeloupe & Martinique by Fournet.

Stachys arvensis L. One 1839 collection known from Martinique, and one more recent from Barbados.

Thymus vulgaris L. Reported from St. Barts and Guadeloupe.

HYPTIS Jacq.

Hyptis Jacq., Coll. **1:** 101. 1787, nom. cons.

Herbs or subshrubs. Leaves simple, petiolate, pinnately veined. Inflorescence of verticels in spikes or congested heads; bracts linear to ovate; flowers sessile or petiolate; calyx tubular or campanulate, ± actinomorphic, often enlarging in fruit, ca. 10-veined, teeth subequal, deltoid, linear or spinulose; corolla tubular, glabrous or pubescent, bilabiate, upper lip 2-lobed, lower lip 3-lobed, the middle one saccate, mostly purple or white; stamens 4, curved into lower lip or extended over it, connective not extended, ovary on extended gynobase, style long and slender, lobes small, clavate, more/less equal. Nutlets 4, ovoid-cylindrical or flattened, smooth or slightly verrucose, brown.

TYPE: *Hyptis capitata* Jacq. type cons.

A genus of 400 species of tropical America.

KEY TO THE SPECIES

1. Inflorescences compactly globose-capitate, involucrate.
    2. Stems prostrate, trailing and rooting .... *H. atrorubens*
    2. Erect herbs.
        3. Heads 2-3 cm in diameter; calyx with ring of pubescence inside; bracts ovate to spatulate .... *H. capitata*
        3. Heads 1-1.5 cm in diameter; pubescence inside calyx scattered, bracts narrowly lanceolate .... *H. lanceolata*
1. Inflorescence essentially racemose, flowers clustered in cymose whorls or secund but not in axillary globose-capitate clusters.
    4. Leaves cordate; flowers few, in open cymules; calyx at anthesis 4-5 mm long, teeth stout, 3 mm long; corolla purplish .... *H. suaveolens*
    4. Leaves acute or cuneate at base; calyx at anthesis 2-3 mm long, teeth 1-2 mm.
        5. Calyx essentially glabrous, teeth deltoid or ovate; corolla white .... *H. verticillata*
        5. Calyx pubescent on tube and between the teeth; calyx teeth linear.
            6. Flowers secund, bracteoles ovate; a conspicuous tuft of white hairs between calyx teeth; corolla white or pink .... *H. pectinata*
            6. Flowers aggregated in glomerules, not conspicuously secund; subtended by erect bracts; calyx without tuft of hairs; corolla blue .... *H. mutabilis*

Hyptis atrorubens Poit., Ann. Mus. Hist. Nat. Paris **7:** 466, *pl. 27, f. 3.* 1806. FIGURE 101.

Type: French Guyana, *Richard s.n.* (P).

Herbs, slender, prostrate, rooting at nodes, stems to 1 m long, sparsely villose-hirsute. Petioles 0.5-1.5 cm, blades ovate, 1.5-4 × 1-1.5 cm, base rounded and attenuate, apex acute, margins crenate, sparsely villose, hairs with bulbous bases, resinous dotted. Inflorescence capitula, axillary, 8-10 mm in diameter, peduncles 0.5-2.5 cm long, bracts obovate, 3-4 mm long, ciliate. Flowers sessile, bracteoles silky pubescent; calyx tubular, 3.5-4 mm long, naked within, teeth equal, acicular to setaceous, 1-1.2 mm long, pubescent with long hairs on rim between teeth; corolla 4-5 mm long, white, lower lip 1 mm long, pubescent stamens shortly exserted. Style 4-5 mm long, slightly bifid. Nutlets 4, ovoid-oblong, 0.6-0.8 mm long, pericarp verrucose, brown.

GENERAL DISTRIBUTION: Mexico, Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Lanmant, mint, herbe à miel, véronique, bouton à vonvons, ti baum.

Hyptis capitata Jacq., Icon. Pl. Rar. **1:** 11, *t. 114.* 1781; Collect. **1:** 102. 1787.

Type: Santo Domingo, Icon. Pl. Rar. *t. 114.*, no specimens known.

Perennial herbs to 2 m tall, stems sparsely pubescent. Petioles short to 3 cm long; blades ovate to rhomboid, 4-12 × 2-6 cm, base cuneate to almost attenuate, apex acute, margin irregularly serrate, sparsely long hirsute. Inflorescence capitula, densely flowered, 2-3 cm diameter, peduncles 2-7 cm long, bracts ovate-lanceolate, ca. 5-7 × 1-1.5 mm long; calyx tubular, 6-8 mm long, pilose annulate within, teeth spinulose ca. 1.5-2 mm long, pubescent; corolla tube 3-5 mm long, white, lower lip 1 mm long, apex pubescent. Nutlets 4, ovoid, lenticular, 1-1.2 mm long, pericarp smooth.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, through South America, established in Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Ti pompons, herbe-citronelle, bouton blanc.

Hyptis lanceolata Poir., *in* Lam. Encycl. Suppl. **3:** 114. 1813.

Type: America, Herb. Desf. (P).

Herb, to 1.5 m tall, stems appressed hirtellous. Petioles obscure; blades ovate-lanceolate, subrhomboid 6-15 × 1.5-3 cm, cuneately narrowed at base, apex acute, glabrous or hirtellous on veins. Inflorescence capitulate, 9-16 mm in diameter; peduncles 0.5-3.5 cm long, hirtellous; bracts lanceolate, 4-8 × 0.5-1.2 mm, ciliate margined; calyx 3 mm long becoming 5 mm in fruit, teeth subulate, 1-1.5 mm long, puberulous; corolla tube 2.5-3 mm long, white. Nutlets ellipsoid, 1 mm long, dark brown, smooth.

GENERAL DISTRIBUTION: Northern South America, tropical Africa.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Grenada!.

Hyptis mutabilis (Rich.) Briq., Bull. Herb. Boiss. **4:** 788. 1896.

Basionym: *Nepeta mutabilis* Richard *in* Actes Soc. Hist. Nat. Paris 110. 1792.
Type: French Guyana, *LeBlond s.n.* (P).

Herb, to 1-2 m tall, stems with recurved hairs. Petioles 1-4 cm long, blades rhomboid-ovate or ovate, 3-6 × 2.5-4 cm, base rounded, narrowed or cuneate, apex acute to acuminate, margin irregularly crenate-serrate, hirtellous. Flowers in small capitulae and partly enclosed by erect elliptic-ovate bracts; peduncles 1-4 mm long; calyx 1.5-3 mm long becoming 8 mm long in fruit, short villose towards the base, teeth 0.8-1.2 mm long; corolla tube 3-4 mm long, sparsely hirsute, pale violet. Nutlets ellipsoid, 1-1.5 mm long, minutely verrucose, tan.

GENERAL DISTRIBUTION: Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Martinique!, St. Lucia!, Grenada!.

COMMON NAME: Herbe-mélisse.

Hyptis pectinata (L.) Poit., Ann. Mus. Hist. Nat. Paris **7:** 474, *pl. 30.* 1806.

Basionym: *Nepeta pectinata* L., Syst. Nat. ed. 10, **2:** 1097. 1759.
Type: LINN 726.31.

Herbs, to 3 m tall, stems pubescent with reflexed hairs. Petioles 2-5 cm long, blades ovate to deltoid, 3.5-8 × 2-4.5 cm, base truncate to subobtuse, apex acute or rounded, margins double serrate, densely pubescent both surfaces, resinous dotted. Inflorescence paniculate, cymes of scorpioid branches, peduncles 1-2 mm long, bracts leaflike, 3-4 mm long; flowers subsessile, bracteoles linear, 3-4 mm long; calyx tubular, 2-2.5 mm long, 10-ribbed, pubescent, teeth spinulose, 2 mm long, puberulent, tufts of white hairs between the teeth; corolla tube 1.5 mm long, rose-purple above, cream below, lobes 0.5-0.6 mm long. Nutlets oblong, 0.7-0.9 mm long, smooth, black.

GENERAL DISTRIBUTION: Southern United States, Greater Antilles, widespread and abundant weed of American tropics, Africa, Asia.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Redonda!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Herbe-pilori, baume z'anglais camphiré.

Hyptis suaveolens (L.) Poit., Ann. Mus. Hist. Nat. Paris **7:** 472, *pl. 29, f. 2.* 1806.

Basionym: *Ballota suaveolens* L., Syst. Nat. ed. 10, **2:** 1100. 1759.
Type: LINN 737.6.

Herb, to 1.5 m tall, much branched; stems with recurved hairs and long spreading hairs, resin-glandular. Petioles 2-4 cm long; blades ovate, 5-10 × 4-6 cm, base cordate or rounded, apex acute or obtuse, margins irregularly coarsely dentate or serrate, villous both surfaces; leaves of inflorescence mostly ovate-lanceolate, 4-6 × 1.5-2 cm, base rounded. Inflorescence of 3- to 5-flowered cymes panicled or congested into spikes, peduncles as long as calyx; calyx 5-6 mm long, villose or hirsute-pilose, glandular, teeth subulate, 3-4 mm long, puberulent, with abundant white hairs between the teeth; corolla tube 4-6 mm long, lobes 1-2 mm long, pale purple or white. Nutlets compressed, 2.5 × 2 mm, truncate or emarginate at apex, often ridged or ringed and grooved, black.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America, naturalized in Old World.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Gros thymn, bwa gason.

Hyptis verticillata Jacq., Icon. Pl. Rar. **1:** 11. 1781.

Type: Santo Domingo. No specimens known.

Herb, to 2 m tall, with many slender ascending branches. Petioles 1 cm long; blades lanceolate to oblong-lanceolate 2-8 × 1.5-2.5 cm, base narrowed, apex acuminate, margins evenly serrate, puberulent on veins beneath. Flowers on pedicels 2 mm long, in separated small glomerules along branches forming long leafy racemes, bracts linear, 2 mm long; calyx 1.5-2 mm long, teeth triangular, 0.5 mm long, ovate, glabrous; corolla 3 mm long, lobes 0.5 mm, greenish-white. Nutlets oblong, flattened, truncate at apex, minutely verrucose.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!. Barbados!.

COMMON NAMES: Wild basilic, grand baume, herbe-volcan.

LEONOTIS R. Br.

Leonotis R. Br., Prodr. 504. 1810.

Erect herbs. Flowers numerous in dense spherical glomerules, these solitary or 2-3 in interrupted spikes; calyx 10-veined, tubular, recurved at apex, oblique, teeth 8, uppermost triangular and 2 × others, spiny tipped; corolla tubular, upper lip entire, lower lip 3-lobed; stamens 4, subequal, included under upper lip. Nutlets oblong, 3-angled, subtruncate, smooth.

TYPE: *Leonotis leonitis* (L.) W. T. Aiton (Basionym: *Phlomis leonitis* L.).

A genus of 40 species of tropical areas.

Leonotis nepetifolia (L.) Ait. f., Hort. Kew, ed. 2. **3:** 409. 1811. FIGURE 102.

Basionym: *Phlomis nepetaefolia* L., Sp. Pl. **2:** 586. 1753.
Type: Surinam, (BM) or LINN 740.17, 740.18.

Erect herb to 2 m; stems stout, bluntly 4-angled, densely pubescent with recurved hairs. Petiole 2-10 cm long; blades broadly ovate, 4-12 × 2-10 cm, base truncate or cordate and cuneately decurrent on petiole, apex short acuminate, margin bluntly large crenate-toothed, glabrate but margins ciliolate. Inflorescence of many-flowered globose glomerules, 5-6 cm in diameter; pedicels 1-2 mm long; calyx 12 mm long in flower to 2.5 cm long in fruit, spine tipped teeth 8, upper tooth to 5 mm long, middle four teeth 1 mm long, lower three teeth 2 mm long, rigid and very prickly in fruit; corolla tube 1-1.3 cm long, curved, orange villose or hirsute, upper lobe 1.5 cm long, lower lip 3-lobed, 4 mm long. Nutlets 3 mm long, acutely angular, black, shiny.

GENERAL DISTRIBUTION: Native of tropical Africa. Now a pantropical weed.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Johnny Collins, bird honey, Lord Lavington, bald head, gros-bouton, grow pompon, gros tête, pompon soldat.

LEONURUS L.

Leonurus L., Sp. Pl. **1:** 584. 1753.

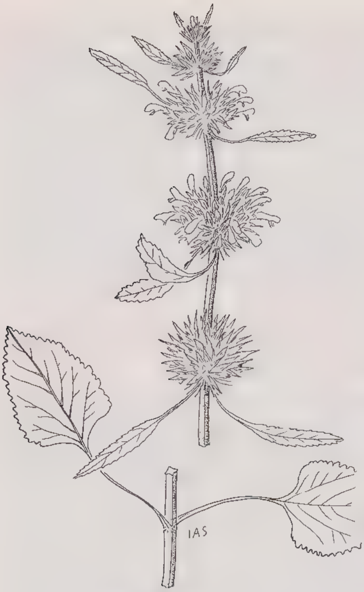
Herbs. Leaves mostly deeply lobed, these incised. Flowers many, in dense whorls with subtending subulate floral bracts; calyx 5-veined, turbinate, teeth 5, awl-shaped, subequal, spine-tipped; corolla tube ampliate above, with ring of hairs inside near the base, bilabiate, upper lip entire, lower lip 3-lobed; stamens 4, didynamous, ascending under upper lip. Nutlets 3-angled, truncate at apex, smooth.

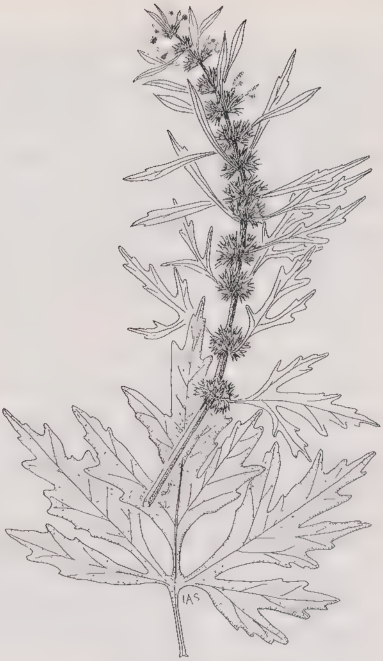
TYPE: *Leonurus cardiaca* L.

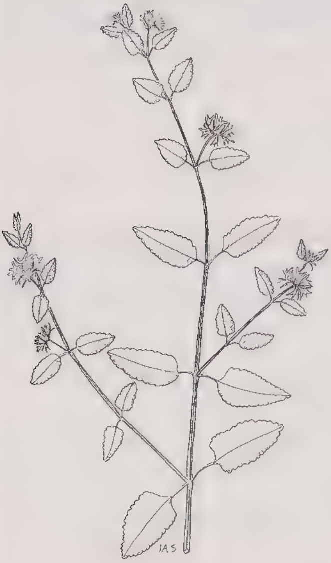
A genus of 14 species of temperate Europe and Asia.

Leonurus sibiricus L., Sp. Pl. **2:** 584. 1753. FIGURE 103.

Type: LINN 739.7.







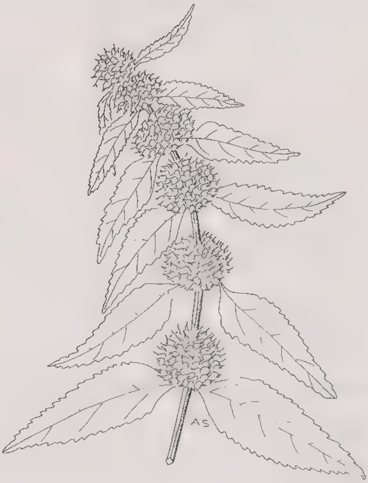


FIGURE 102 (upper left). *Leonotis nepetifolia*: × 0.35. FIGURE 103 (upper right). *Leonurus sibiricus*: × 0.35. FIGURE 104 (lower left). *Marsypianthes chamaedrys*: × 0.35. FIGURE 105 (lower right). *Leucas martinicensis*: × 0.35.

Erect herb to 60 cm tall, stem pubescent on angles. Petioles on basal leaves to 10 cm, on upper leaves much shorter; blades round-ovate in outline, deeply 3-lobed, median leaves 5-12 × 8-15 cm, deeply incised, base truncate to cuneate, apex acute to attenuate, glabrate, obscurely glandular; floral leaves much smaller, similar in shape or linear and entire. Flowers sessile in many flowered whorls, to 2 cm in diameter, subtended by awl-shaped bracts 2-3 mm long, calyx campanulate, 6-8 mm long, teeth 3 mm long, spine-tipped, puberulent; corolla tube 5-6 mm long, silky pubescent, lips 6-7 mm long, upper lip entire, lower lip 3-lobed, the middle lobe largest and emarginate, pink to rose or lavender with purple lines; stamens 4, close under upper lip. Nutlets 2 mm long, angular, dark brown.

General distribution: Native of Asia established in Greater Antilles, Mexico, and Central and South America.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, Barbuda!, Antigua!, Saba!, Montserrat!, Guadeloupe!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, the Grenadines!, Grenada!, Barbados!.

Common names: Motherwort, chandalier, chandilyé, herbe à Madame Lalie.

Note: Many specimens have been annotated as *Leonurus artemisia* (Lour.) S. Y. Hu. We accept here the conclusions of H. Keng (Fl. Malesiana **8:** 336. 1978) and note the extensive literature cited and his discussion. The Lesser Antillean specimens exhibit a great range of morphological variation. It is certainly a polymorphous species.

LEUCAS R. Br.

Leucas R. Br., Prodr. 504. 1810.

Herbs. Flowers in dense axillary verticillate clusters; calyx tubular or tubular-campanulate, 10-nerved, 8-10-toothed; corolla small, 2-lipped, upper lip erect, concave, entire or emarginate, lower lip 3-cleft; stamens 4, didynamous, ascending. Nutlets 3-angled, smooth.

Type: *Leucas flaccida* R. Br.

A genus of 100 species of tropical areas.

Leucas martinicensis (Jacq.) W. T. Aiton, Hort. Kew **3:** 109. 1811.
Figure 105.

Basionym: *Clinopodium martinicense* Jacq., Enum. 25. 1760.
Type: Martinique. No specimens located, see Notes.
Syn.: *Phlomis caribaea* Jacq., Icon. Pl. Rar. **1:** 11, *t. 110.* 1786, nom. illegit. citing *C. martinicense.*
Phlomis martinicensis (Jacq.) Sw., Prodr. 88. 1788.

Erect branched herb, to 0.5 m high, densely silky pubescent. Petioles 1-2 cm long; blades ovate to lanceolate, 4-10 × 13.5 cm, base cuneate, apex blunt or acute, margin crenate-dentate, pubescent both surfaces. Flowers many in distinct axillary clusters, 2.5 cm in diameter; calyx 10 mm long, curved, oblique, teeth setaceous, upper to 5 mm long, much longer than the lower teeth; corolla tube 4 mm long, lobes subequal 1-2 mm long, included in calyx, white. Nutlets oblong, 1 mm long, 3-angled, slightly verrucose, black, shiny.

GENERAL DISTRIBUTION: Probably indigenous to the Old World. Now a pantropical weed in Hispaniola, Virgin Islands, Costa Rica, Brazil.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

MARSYPIANTHES Mart. ex Benth.

Marsypianthes Mart. ex Bentham, Lab. Gen. Sp. 64. 1833.

Herbs, erect or prostrate, often somewhat viscid. Leaves simple, pinnately nerved, generally dentate. Inflorescence capitulate, loosely flowered, pedunculate; bracts linear-lanceolate to ovate; calyx campanulate or funnelform, 5 lobes about equal; corolla tubular, bilabiate, upper lip 2-lobed, lower lip 3-lobed, middle lobe saccate; stamens 4, decurved into lower saccate lobe. Nutlets 4, attached laterally to gynobase, concave on inner face, the furrow with membranous margins involute and lacerate.

TYPE: *Marsypianthes hyptoides* Mart., nom illeg. = *Marsypianthes chamaedrys* (Vahl) Ktze.

A genus of 5 species of tropical America.

Marsypianthes chamaedrys (Vahl) O. Kuntze, Rev. Gen. Pl. **2:** 524. 1891. FIGURE 104.

Basionym: *Clinopodium chamaedrys* Vahl, Symbol. **3:** 77. 1794.
Type: "Guiana". No specimens cited.

Herbs, mostly prostrate; stems much branched, to 70 cm long, with spreading gland-tipped hairs. Petioles 1-2.5 cm long; blades ovate, 1.5-7 × 1-2.5 cm, base obtuse to cordate, apex acute, margins crenate, villous or viscid. Inflorescences capitulate, loosely flowered, 1-2.5 cm in diameter; peduncles 1-2.5 cm long, bracts linear-lanceolate, 8-10 mm long, ciliate with gland-tipped hairs; flowers sessile to short pedicellate; calyx campanulate, 6-8 mm long, 10-ribbed, pubescent, teeth deltoid at the base, long acuminate, 1.5-4 mm long, becoming purple in fruit; corolla tubular, 7-9 mm long, bilabiate, upper lip 2-lobed, purple or violet, weakly pubescent. Nutlets four, 2 mm long, pale brown.

GENERAL DISTRIBUTION: Cuba, Puerto Rico, Mexico, Central America, South America.

Distribution in Lesser Antilles: St. Barts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Common name: Marguerite, verveine-terre.

OCIMUM L.

Ocimum L., Sp. Pl. **2:** 597. 1753.

Woody herbs or subshrubs. Leaves simple, pinnately nerved, petiolate. Inflorescence terminal, racemes or panicles of distinct verticels of 6 flowers, bracts leaflike; flowers mostly pedicellate, calyx campanulate, frequently deflexed in fruit, bilabiate, upper lip entire, rounded, margins decurrent, usually concave, lower lip 4-toothed, teeth aristate, unequal, commonly curved and closing tube; corolla tubular, included or exserted, bilabiate, upper lip 4-lobed, lower entire, flat or concave; stamens 4, declinate, upper pairs glabrous, lower pair often pubescent, equal to corolla tube or exserted. Nutlets 4, spherical or obovate, attached at base, pericarp smooth or warty, usually mucilaginous when wetted.

Lectotype: *Ocimum basilicum* L.

A genus of 100 species of warm and tropical areas, abundant in Africa. *Ocimum tenuiflorum* L. (*O. sanctum* L.) is reported from the area in popular literature, but its occurrence is not documented.

Key to the Species

1. Annual herbs; leaves ovate to elliptic, blades 2-4 cm long, remotely serrate; upper calyx lobe broad, winged and decurrent; lower calyx lobe longer than the upper. Nutlets elongate, 2× as long as thick.
    2. Pedicels divergent at right angles, decurved in fruit, not clearly separated; calyx 7-8 mm long in fruit, strigose pubescent outside, glabrous inside; nutlets brown .... *O. campechianum*
    2. Pedicels short, erect, verticels distinctly separate; calyx tube 4-5 mm long in fruit, pilose inside; nutlets black........................ *O. basilicum*
1. Perennial shrub; leaves lanceolate-elliptic, base cuneate-decurrent, margins sharply serrate; upper calyx lobe rounded, lower calyx lobe shorter than upper, with 2 approximate middle teeth and 2 lateral; nutlets subspherical, brown......... .... *O. gratissimum*

Ocimum basilicum L., Sp. Pl. **2:** 597. 1753.

Type: linn 749.5.

Erect annual herb, to 60 cm high, stems pubescent with recurved hairs above. Petioles slender, 1-1.5 cm long, loosely pubescent, blades elliptic, ovate or subrhombic, 2-4 × 1-2 cm, base narrowed, apex acute, margin sparingly low-dentate or entire, glabrous except on veins. Inflorescences 20 cm long, verticels distinctly separated, bracts ovate, 0.5 cm long, pedicels short and ascending so that the flowers appear subsessile, strongly curved at the apex in fruit; calyx 5 mm long, long-strigose or ciliate outside, densely strigose inside, upper lobe broad, 2 lateral teeth ovate, 2 lower teeth subulate; corolla 4-5 mm long, white to mauve. Nutlets oblong, black, minutely verrucose.

GENERAL DISTRIBUTION: Native of India or Asia now widely distributed in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, St. Lucia!, St. Vincent!.

COMMON NAMES: Basilic, framboisin, bazalik.

NOTES: Two distinct populations appear in the West Indies. In one the calyx is conspicuously long strigose, and in the other the long strigose hairs are lacking and a shorter pubescence occurs.

Ocimum campechianum Miller, Gard. Dict. ed. 8, #5. 1768.

Type: BM.
Syn.: *Ocimum micranthum* Willd., Enum. Hort. Berol. 630. 1809. (Type: A cultivated plant, specimens not known.)

Erect annual herbs to 0.5 m tall; branches divaricate, sparsely pubescent. Petioles 1-3 cm long, blades rhomboid, obovate or ovate, 3-5 × 2-3.5 cm, base attenuate, apex acute, margins serrate, resin dotted, glabrous to pubescent on veins. Inflorescence to 15 cm long, verticels 0.5-1.5 cm distant, bracts leaflike, 4-6 mm long, pedicels < 4.5 mm long; calyx 7-9 mm long, pubescent on veins, glabrous inside, upper lobe rounded, 3-veined, margins decurrent on calyx tube to base, lower lobe 6- to 8-veined, teeth curved upward; corolla tubular, 3-4 mm long, upper 4-lobed, lower entire, pink, purple or blue; filaments naked. Nutlets 4, ca. 1.7-2 mm long, pericarp dark brown, minutely warty.

GENERAL DISTRIBUTION: Widely distributed in tropical America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Antigua!, St. Eustatius!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Balm, fon basin, basil, fonboysa.

Ocimum gratissimum L., Sp. Pl. **2:** 1197. 1753. FIGURE 106.

Type: India, LINN 749.2.

Perennial shrub to 2 m tall, pubescent on younger branches. Petioles to 4.5 cm long, blades lanceolate-elliptic, 5-12 × 3-4.5 cm, base cuneate and decurrent, apex attenuate or acute, margin crenate, resin-dotted, glabrous above, sparingly pubescent on veins. Inflorescence verticels separated by less than 1 cm, racemes to 15 cm long, copiously brown-pubescent; bracts ovate-lanceolate, 4-7 mm long, attenuate; calyx 3-4 mm long, resin dotted, pubescent on veins, naked within, upper lobe entire, 3-veined, lateral margins decurrent on upper third of tube, lower lip shorter than upper with

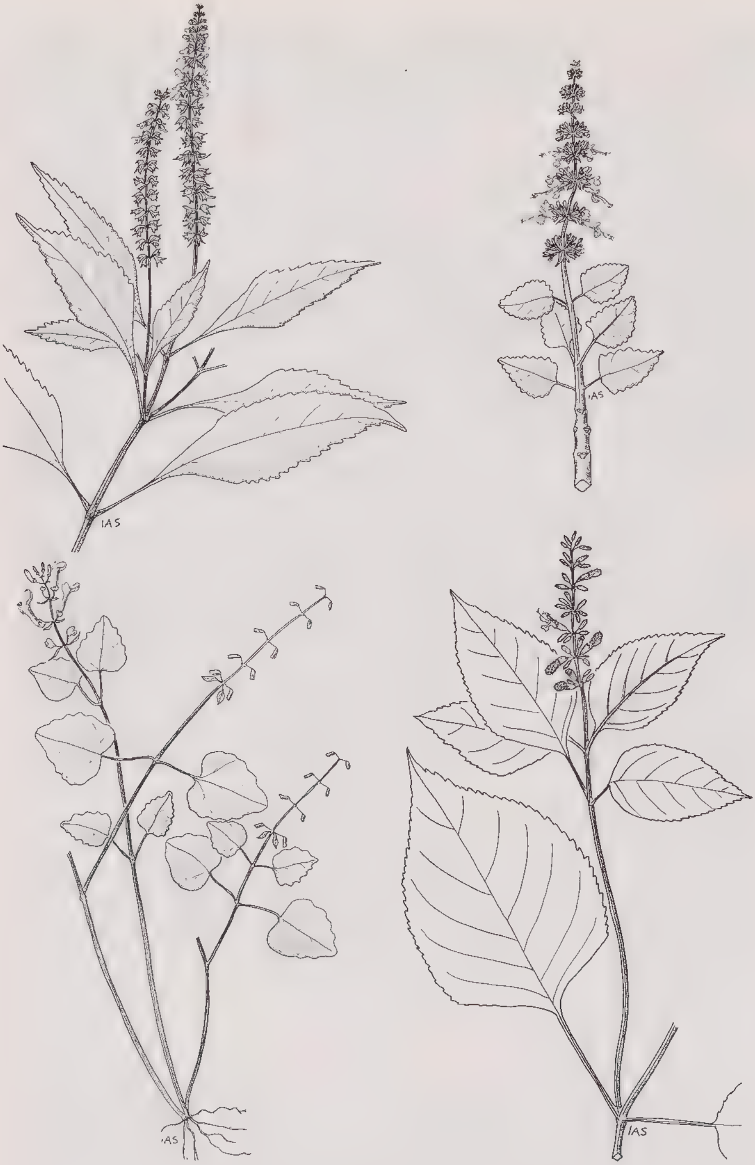


FIGURE 106 (upper left). *Ocimum gratissimum*: × 0.35. FIGURE 107 (upper right). *Plectranthes amboinicus*: × 0.35. FIGURE 108 (lower left). *Scutellaria purpurea*: × 0.35. FIGURE 109 (lower right). *Salvia lamiifolia*: × 0.35.

2 lower teeth and 2 short lateral teeth, orifice open, calyx glabrous inside; corolla tubular, 2.5 mm long, white and purple; stamens exserted, lower filaments with pubescent appendages at base. Nutlets 4, spherical, 1.2 mm in diameter, pericarp verrucose.

GENERAL DISTRIBUTION: Native of India but common in all tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Mint, frond bazin, basilic.

NOTES: Much of the material examined had been determined as *O. suave* Willd. J. K. Morton (J. Linn. Soc. Bot. **58:** 232-234. 1962) concluded that *O. suave* Willd. and *O. gratissimum* L. were distinct, at least as chromosomal races, although morphological intermediates were seen. Morton later (Fl. W. Trop. Afr. ed. 2, **2:** 451. 1963) characterized in a key *O. suave* with a calyx dull, densely woolly and spikes dense, while *O. gratissimum* is described as having the calyx glossy, or nearly so, and the spikes lax. If these distinctions are accepted, the material now called *O. gratissimum* from the Greater Antilles is correctly named while the Lesser Antillean specimens would be *O. suave.* However, J. H. Ross (Flora Natal 306. 1972) lists *O. suave* Willd. as a synonym of *O. urticifolium* Roth. L. E. Codd (Fl. Southern Africa **28:** 219-221. 1985) placed *O. suave* Willd. and *O. gratissimum* var. *suave* (Willd.) Hooker in the synonymy of *O. urticifolium* Roth ssp. *urticifolium.* No material of *O. urticifolium* Roth has been available for study.

Ocimum tenuiflorum L. (*O. sanctum* L.) is reported by Velez from St. Martin, St. Kitts, Guadeloupe and Dominica but no specimens located.

PLECTRANTHUS L'Hérit.

Plectranthus L'Hérit., Stirp. Nov. fasc. **4:** *t. 21, 42.* 1788.

Syn.: *Coleus* Lour., Fl. Cochinch. **2:** 372. 1790. (Type: *Coleus amboinicus* Lour.).

Herbs or low shrubs; foliage usually succulent. Leaves petiolate, toothed or incised. Inflorescence of terminal racemes, flowers in verticels, bracts small; calyx campanulate, 2-lipped to subequally 5-dentate, becoming declinate; corolla bilabiate, upper lip usually 4-lobed, lower lip elongate, curved, concave; stamens 4, didynamous, filaments connate below, declinate on lower lip of corolla. Nutlets ovoid or broader, smooth.

LECTOTYPE: *Plectranthus fruticosus* L'Hér.

A genus of 350 species primarily of Africa and Asia. For further information see Launert, Mitt. Bot. StSamml. München. **7:** 295-307. 1963.

KEY TO THE SPECIES

Foliage usually bright-colored, glabrous	*P. scutellarioides*
Foliage green, densely silky pubescent	*P. amboinicus*

Plectranthus amboinicus (Lour.) Spreng., Syst. Veg. **2:** 690. 1825.
FIGURE 107.

Basionym: *Coleus amboinicus* Lour., Fl. Cochinch. 372. 1790.

Type: Amboina, Moluccas. A few scarcely recognizable fragments (BM). Launert (1963) selected *Kerr s.n.* 25 V 1924 (BM) from Siam as a representative specimen. Cramer (Fl. Ceylon **3:** 138. 1981) chose Herb. Amb. **5:** *t. 102, f. 2.* 1750 as the lectotype.

Syn.: *Coleus aromaticus* Benth., in Wall. Plant As. Rar. **2:** 15. 1831. (Type: India, Buch.-Hamilton s.n., holotype Herb. Wallich, K.).

Herb, perennial, succulent; stems decumbent, to 1.5 m. Leaves with petioles 4-10 mm long, blades broadly ovate to ovate-deltoid, 2.5-4.5 × 2.5-4 cm, base truncate to abruptly attenuate, apex obtuse to rounded, margin crenate, both surfaces densely pubescent and with glands. Inflorescence to 30 cm long, flowers in widely spaced, densely flowered glomerules, bracts persistent; calyx 5-6 mm long, glandular-villous; corolla 7-9 mm long, tube bent, upper lip 1.5-2 mm long, lower lip boat-shaped, 4 mm long, lilac to whitish.

GENERAL DISTRIBUTION: Native of Africa widely introduced in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Kitts!, Nevis!, Guadeloupe!, Martinique!, St. Vincent!, the Grenadines!.

COMMON NAMES: Thyme, wild thyme, soup thyme, gros thyme, ditengo.

Plectranthus scutellarioides (L.) R. Br., Prodr. 506. 1810.

Basionym: *Ocymum scutellarioides* L., Sp. Pl. ed. 2, **2:** 834. 1763.

Type: Linnaeus cited Rumph. amb. 5, *t. 101.*

Syn.: *Coleus blumei* Benth., Lab. Gen. Sp. 56. 1832. (Type: See Notes.)
Plectranthus blumei (Benth.) Launert, Mitt. Bot. StSamml. Münch. **7:** 301. 1963.

Erect, branched herb, to 70 cm tall. Leaves on petioles 3-8 cm, blades extremely variable in size, color, crispness, and incision, ovate to rounded-ovate, 6-15 × 4-8 cm, base truncate, apex acute to acuminate, margin crenate, dentate to variously incised, or crispate, variously colored, loose hirsute pubescent to glabrate. Inflorescence a panicle, often much branched, of loose verticels; pedicels 1.5-2.5 mm long; calyx 2-4 mm long, reticulate-veined, resin-dotted, upper lip 3-lobed, middle lobe much larger, lateral lobes rounded, lower lip smaller, 2-lobed or toothed; corolla 1 cm long, tube curved, upper lip 2-lobed, lower lip concave, blue to white, tube longer than calyx.

GENERAL DISTRIBUTION: Widely cultivated.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, St. Vincent!.

NOTES: Bentham in the original publication of *Coleus blumei* quoted Blume and referred to a cultivated specimen from Java. Many recent works have accepted this name for the commonly cultivated colored leaf plant grown for its foliage. Horticultural publications often refer these plants to ''Coleus × hybridus Voss,'' which is a name of questionable validity seemingly published in synonymy. No evidence of hybridity has been located. H. Keng (Fl. Malesiana **8:** 389-391. 1978) accepted *Plectranthes scutellarioides* as the correct name for this complex and cited an extensive literature.

Many writers now accept the genus *Solenostemon*, which is demarcated to include ''Coleus blumei''. If this is done, the correct name becomes *Solenostemon scutellarioides* (L.) Codd. See Codd, Bothalia **11:** 439. 1975 and Fl. Southern Afr. **28:** 179. 1985.

SALVIA L.

Salvia L., Sp. Pl. **1:** 23. 1753.

Herbs or shrubs, glabrous or pubescent. Leaves petiolate, simple, pinnately veined, glabrous or pubescent. Inflorescence of verticels in an interrupted raceme or spike, each with 4 or more flowers; bracts caducous or persistent, often showy; flowers short pedicellate to subsessile; calyx tubular to campanulate, bilabiate, upper lip entire or 3-lobed, lower lip usually 2-lobed, 6- to 10-veined; corolla tubular, of 5 united petals, bilabiate, upper lip entire, lower lip 3-lobed; stamens 2, included in upper lip or exserted, connective often elongate. Nutlets 4, attached at the base, oblong-ovate, smooth, brown.

LECTOTYPE: *Salvia officinalis* L.

A large diverse genus of over 500 species, almost cosmopolitan but poorly represented in our area.

KEY TO THE SPECIES

1. Corolla blue or white.
    2. Corolla 1-1.5 cm long, densely villose.................... *S. lamiifolia*
    2. Corolla smaller, glabrous.
        3. Stamens included; plant prostrate or spreading......... *S. occidentalis*
        3. Stamens exserted; plants erect.
            4. Corolla white; stems pilose with spreading hairs; calyx 3.5-4 mm long .... *S. serotina*
            4. Corolla blue, stems with short curled hairs; calyx 4.5-7 mm long.... .... *S. micrantha*
1. Corolla red or scarlet.. *S. coccinea*

CULTIVATED TAXA

Salvia farinacea Benth. Cultivated in Guadeloupe and Martinique ex Duss.
Salvia splendens Sello ex Nees. Cultivated on French Islands.

Salvia coccinea Etlinger, Comm. Salvia 23. 1777.

Type: Unknown. Species described from material grown from seed collected by Bruce in Ethiopia. Also cited is an illustration in Buchoz, Hist. Univ. Règne Vég. **2**, dec. 3, *pl. 2.* ca. 1773. This rare publication is at K.

Syn.: *Salvia pseudococcinea* Jacq., Collect. **2:** 302. 1768. (Type: America, no specimens located.)

Annual herb to 1 m tall; stems with soft short hairs and bristly with longer spreading hairs. Petioles 1-3 cm long, blades deltoid-ovate, 3-6 × 1.2-3 cm, base obtuse to cordate, apex acute, margin crenate-serrate, both surfaces soft pubescent. Inflorescence interrupted spikes to 30 cm long, flowers 3-5 at each verticel, subtended by whitish bracts; pedicels 2-3 mm long; calyx 6-8 mm long, greenish; corolla tube 13-17 mm long, lower lip 2 × upper, puberulent, bright red; stamens exserted 3-4 mm. Nutlets oblong, 2.5 mm long.

General distribution: Cultivated or escaped in many tropical countries.

Distribution in Lesser Antilles: Montserrat!, Guadeloupe!, Martinique!, St. Vincent!.

Salvia lamiifolia Jacq., Hort. Schoenbr. **3:** 37, *t. 318.* 1798. Figure 109.

Type: ibid., *t. 318.* Validating specimens are not known.

Stout herb, 1-1.5 m tall; stems with curved ascending hairs. Petioles 2.5-5 cm long, puberulent; blades broadly ovate, 10-13 × 5.5-8.5 cm, base rounded and cuneate, apex acute to short acuminate, margin sharply serrate, glabrate but densely gland-dotted. Inflorescence terminal, to 20 cm long, unbranched, bracts ovate-subulate, 6-7 mm long, caducous; verticels of 6-10 flowers, pedicels 1-2 mm long; calyx 5-6 mm long, glabrescent, margin ciliate, teeth 3, subulate; corolla tube 1 cm long, lobes 6-7 mm long, subequal, blue or bluish purple, villous and glandular; stamens included. Nutlets oblong, 2 mm long, brown.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Martinique, St. Lucia!, St. Vincent!.

Notes: In the original description Jacquin attributed the material he was growing at Schoenbrun to Mexico. In synonymy but with a question he cited Cavanilles' *S. polystachya* from Mexico. Epling, in his revision of *Salvia* (Repert. Spec. Nov. Regni Veg. Beih. **110:** 270. 1939), clearly distinguished between *S. polystachya* of Mexico and *S. lamiifolia* of St. Vincent. He acknowledged he could not locate a type specimen of *S. lamiifolia* Jacq. but cited additional synonyms, some based on cultivated material from Schoenbrunn such as *S. boosiana* J. F. Jacq. (Eclog. **1:** 69, *t. 47.* 1813) possibly collected from the same material the elder Jacquin had described. In his unpublished Hortus Alexander Anderson described from St. Vincent "Salvia latifolia" (Trans. Soc. Arts & Manuf. **25:** 210. 1807 (nom. nud.)) with a questioned synonym, "Salvia mexicana L." In addition, Epling listed

Salvia amoena Sims (Bot. Mag. *t. 1294*. 1810) based on material grown by Loddiges and *Salvia wilsonii* Urban (Notizbl. Königl. Bot. Gart. Berlin **8:** 22. 1921) based on a Wilson collection from a plant growing in the Bath botanical garden in Jamaica. Anderson did send seeds and plants from St. Vincent to the Loddiges firm on many occasions. A specimen of a blue-flowered *Salvia* was included in the plants Anderson sent to England via Capt. Bligh after the delivery of the breadfruit by the Providence. That shipment was offloaded in Jamaica and retained at Hinton East's garden and at the Bath gardens while the Providence was occupied in military duties.

Epling (l.c.) gave the distribution of this species as St. Vincent, with a question for St. Lucia, Jamaica (cult.), and Trinidad (*Sieber 189*). Two collections have been made recently on Gros Piton and Petit Piton in St. Lucia in completely native woodlands. The Sieber collection has the label "Fl. Trinitatis," which has often been used incorrectly for plants from Martinique. Since the species has not been collected again in either Trinidad or Martinique it possibly did come from St. Vincent.

Salvia micrantha Vahl, Enum. Pl. **1:** 235. 1805.

Type: "America" but no specimens cited.

Herbs, to 40 cm; stems with short, appressed recurved pubescence. Petioles to 0.8-2.5 cm; blades deltoid, 3-4.5 × 2-3.5 cm, base truncate to subcordate, apex acute, margins crenate, glabrous above, pubescent on veins below. Inflorescence verticels 6-flowered, bracts lanceolate, 2 mm long, caducous; pedicels 2-4 mm long; calyx tubular, 6 mm long, pubescent with capitate hairs, upper lobe 2-toothed, mostly 5- to 9-veined, lower lobe 3-toothed; corolla tubular, 8 mm long, naked within, blue, lower lip larger; stamens 2, connective straight or with slight hook at apex. Nutlets 4, oblong, < 2 mm long, pale brown.

General distribution: Florida, Greater Antilles, Panama.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, Barbuda!, Saba!, St. Kitts!, Guadeloupe!, St. Lucia!, Grenada!.

Salvia occidentalis Sw., Prodr. 14. 1788.

Type: Jamaica, Browne.

Repent or prostrate annual herbs; stems to 40 cm long, finely pubescent with curved hairs. Petioles 0.5-1 cm long; blades ovate to subdeltoid, 1.5-6 × 1.3-3 cm, base truncate or obtuse, apex acute, margins sharply crenate-serrate, glabrous above, slightly pubescent below. Inflorescence 15-30 cm long, verticels 6- to 10-flowered, pubescent with capitate glandular hairs, bracts ovate, long acuminate, 2-3 mm long, pubescent; pedicels 1-2.5 mm long; calyx tubular, 2-4 mm long, with glandular capitate hairs, bilabiate, upper lip 5- to 9-veined; corolla tubular, 2.5 mm long, blue with white streaks, naked within, upper lip 1.2-1.8 mm long, lower lip weakly 3-lobed, 1.5-2 mm long. Nutlets 1.5 mm long, usually only one maturing, smooth.

GENERAL DISTRIBUTION: Greater Antilles, and a weed of tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Salvia serotina L., Mant. **1:** 25. 1767.

Type: Herb. Juss., P "5253," ex Gillis.

Much-branched, compact, perennial herb, to 30 cm tall; stems finely pubescent, with long silky hairs. Petioles 3-4 mm long, blades ovate or orbicular-ovate, 1-4 × 0.8-1.5 cm, base rounded or subcordate, apex obtuse, margins crenate-serrate, densely silky pubescent below. Inflorescence to 10 cm long, bracts ovate-linear; pedicels 2 mm long, glandular hirsute; calyx 4-5 mm long; corolla 6-7 mm long, white or blue. Nutlets 1.5-2 mm long, light brown.

GENERAL DISTRIBUTION: Primarily Caribbean, with some records from Central America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Antigua!, St. Eustatius!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!.

SCUTELLARIA L.

Scutellaria L., Sp. Pl. **2:** 598. 1753.

Herbs, erect or procumbent. Leaves petiolate, pinnately veined. Flowers usually solitary in axils of leaves or reduced leaves, or irregularly verticillate, bracts persistent or caducous; calyx 2-lipped, both equal and rounded, the upper developing a protuberance or scutellum, and caducous, the lower persistent; corolla tube cylindric, recurving and ascendant, upper lip galeate; stamens ascending under upper lip, included by it. Nutlets ovoid, elevated on postlike gynophore, tuberculate or verrucose.

LECTOTYPE: *Scutellaria peregrina* L., vide ING.

A genus of 300 species nearly cosmopolitan in distribution.

For further information see Epling, Univ. Calif. Pub. Bot. **20:** 1-146. 1942.

KEY TO THE SPECIES

1. Corolla blue or purple.
    2. Median petioles 10-20 mm long . . . . *S. purpurascens*
    2. Median petioles 3-8 mm long . . . . *S. havanensis*
1. Corolla red . . . . *S. ventenatii*

Scutellaria havanensis Jacq., Enum. Pl. Carib. 25. 1762.

Type: Apparently a cultivated specimen.
Syn.: *Scutellaria cubensis* A. Rich. *in* Sagra, Hist. Fis. Cuba, Bot. **2:** 157. 1850.

Perennial herb; spreading by rhizomes to 20 cm long; pubescent with varying hair types, mostly curled. Petioles less than 8 mm long; blades ovate, 1-2 × 1-2 cm, base rounded or cuneate, apex acute, margin irregularly crenate or entire, hispidulous or glabrous both surfaces. Flowers axillary in leafy-bracted racemes; calyx lower lip 1.5 mm long to 2.5-3 mm in maturity; corolla tube 12-17 mm long, violet. Nutlets black, papillose.

General distribution: Greater Antilles, Mexico, Central America.

Distribution in Lesser Antilles: Reported by Velez from Guadeloupe, Dominica, and Martinique, and by Stehlé from Tivoli, where it was presumably cultivated.

Scutellaria purpurascens Sw., Prodr. 89. 1788. Figure 108.

Type: Guadeloupe, *Ponthieu s.n.* (holotype BM).

Erect herbs, to 0.5 m tall. Petioles 3 cm long, blades deltoid-ovate, 2-4 × 2-3 cm, base rounded, truncate or shallowly cordate, apex acute, margin crenate and ciliolate, sparsely pubescent to glabrate, lower leaf surface characteristically red-purple. Inflorescence verticels mostly 1-flowered, bracts lanceolate, 2-4 mm long, ciliolate; pedicels to 6 mm long; calyx 2 mm long in flower, to 3-5 mm long in fruit, scutellum 2 mm long; corolla 12-15 mm long, blue with white spot, glabrous within. Nutlets 4, spherical, 1.5-1.7 mm in diameter, brown.

General distribution: Central America, northern South America.

Distribution in Lesser Antilles: Antigua!, Guadeloupe!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

Scutellaria ventenatii Hooker, Bot. Mag. 72, *pl. 4271.* 1846.

Type: Cultivated specimen grown from seeds from Purdie from Colombia.

Perennial herb, stems branching, to 1 m tall. Petioles 1-3.5 cm long, blades broadly ovate, 4-8 × 3.5-6 cm, base cordate, apex obtuse to short acuminate, margins crenate to subentire, upper surface pubescent with short hairs and pellucid glands, lower surface hirsute. Racemes elongating to 25 cm long, hairy, glandular; bracts 2-3 mm long, flowering calyx 2.5-3 mm long, glandular pubescent, lower lip 5-6 mm long, scutellum 3 mm tall; corolla tube 18-20 mm long, scarlet. Nutlets discoid, 1.5 mm in diameter, black, minutely tuberculate.

General distribution: Hispaniola, Jamaica, Trinidad, Colombia, Brazil.

Distribution in Lesser Antilles: Guadeloupe!, Dominica!, Martinique!.

Common name: Soubier zombi rouge.

Note: All records of this plant from the Lesser Antilles probably are of cultivated or naturalized plants. Epling felt that *Duss 3474*, a specimen of a plant cultivated on the hospital grounds at Port Louis and distributed as *S. coccinea*, might be a hybrid between *S. ventenatii* and *S. purpurascens.*

SOLANACEAE

SOLANACEAE A. L. Juss., Gen. Pl. 124. 1789.

Herbs, shrubs, trees or lianas, often armed with spines or prickles, pubescent with simple or branched hairs, sometimes glandular, or glabrate. Leaves alternate or geminate, estipulate, simple or pinnately compound. Inflorescences terminal, axillary or extra-axillary, racemose, cymose, panicles, solitary or fascicled, bracts or bracteoles infrequent. Flowers mostly perfect, small to very large, regular or zygomorphic, mostly 5-merous; calyx gamosepalous, lobed, truncate or variously splitting, sometimes circumscissile or inflated. Corolla sympetalous, tubular, infundibuliform, campanulate or rotate, often plaited, lobes valvate, imbricate or quincuncial; stamens borne on the corolla tube, filaments filiform, sometimes pilose, or with knee-like projections or geniculate, anthers mostly versatile, longitudinally dehiscent or poricidal; ovary of 2 carpels, placentae often large, ovules numerous, style slender, stigma capitate or bilamellate. Fruit a capsule, or leathery or fleshy berry; seeds commonly compressed, embryo straight or curved.

TYPE: *Solanum* L.

A family of 90 genera and 2600 species nearly cosmopolitan in distribution. Many are ornamental or economically important.

CULTIVATED TAXA

Cyphomandra betacea (Cav.) Sendt., the tree tomato, was once cultivated on Martinique.

Lycopersicon esculentum Miller, the tomato, with many varieties was cultivated as an export crop on Montserrat. Probably cultivated on all islands but only one documenting herbarium collection has been seen and that from St. Lucia.

Petunia hybrida Lindley is currently cultivated on St. Lucia and probably on other islands as well.

Other cultivated taxa are listed with the appropriate genus.

KEY TO THE GENERA

1. Anthers poricidal.
    2. Calyx with 10 lobes, apex truncate, 10 teeth arising below the apex, woody vines .... *Lycianthes*
    2. Calyx with 5 lobes, the teeth apical........ *Solanum*
1. Anthers longitudinally dehiscent.
    3. Stamens 4 or fewer.
        4. Fruit a capsule, enclosed in calyx; corolla salverform, blue or white........ *Browallia*
        4. Fruit a leathery berry; corolla yellow or white........ *Brunfelsia*
    3. Stamens 5 or more.

5. Corolla more than 8 cm long.
  6. Vines or epiphytic shrubs, corolla yellow, with purple-brown or green lines, lobes crenate to fimbriate without elongate tips..... *Solandra*
  6. Herbs or shrubs; corolla without conspicuous purple-brown or green lines, lobes with elongated tips.
    7. Flowers pendulous; calyx marcescent; fruit an unarmed leathery berry, not fruiting in Lesser Antilles.............. *Brugmansia*
    7. Flowers erect or at an angle, calyx circumscissile; fruit a capsule, with spines or bumps.................................. *Datura*
5. Corolla less than 8 cm long.
  8. Corolla tube less than 9 mm long, corolla mostly rotate or broadly campanulate.
    9. Calyx accrescent and enveloping the fruit; corolla often with brown basal spots...................................... *Physalis*
    9. Calyx not enveloping fruit.
      10. Anthers coherent by lateral grooves and with ventral pubescence; seeds pubescent; leaves mostly compound; cultivated, the tomato .... *Lycopersicon esculentum* Mill.
      10. Anthers free; seeds glabrous; leaves simple....... *Capsicum*
  8. Corolla tube more than 10 mm long, mostly tubular, or narrowly campanulate.
    11. Herbs, viscid-pubescent......................... *Nicotiana*
    11. Shrubs or trees, plants not viscid pubescent.
      12. Flowers commonly clustered at leafless nodes; corolla broadly tubular; stamens and style exserted............. *Acnistus*
      12. Flowers axillary or terminal; corolla narrowly tubular, expanded but not flaring at apex, stamens and style included........ .... *Cestrum*

ACNISTUS Schott

Acnistus Schott, Wien. Zeitsch. Kunst. **4:** 1180. 1829.

Shrubs or trees. Flowers pedicellate, in axillary or lateral fascicles. Calyx campanulate, truncate or shortly 5-dentate, persistent. Corolla subcampanulate to funnelform, usually 5-lobed. Stamens 5, borne on the corolla tube, filaments filiform. Ovary 2-celled, style filiform, stigma 2-lipped. Fruit a globose berry; seeds compressed, rugose, embryo curved.

TYPE: *Acnistus cauliflorus* (N. J. Jacquin) Schott (*Cestrum cauliflorus* Jacq.) = *Acnistus arborescens* (L.) Schlecht. (*Atropa arborescens* L.).

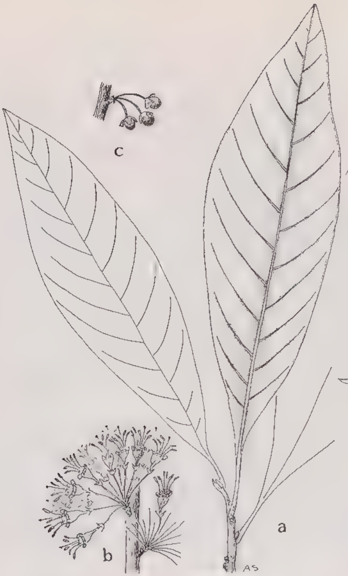
A monospecific genus of tropical America. For further information see A. T. Hunziker, Kurtziana **15:** 81-102. 1982.

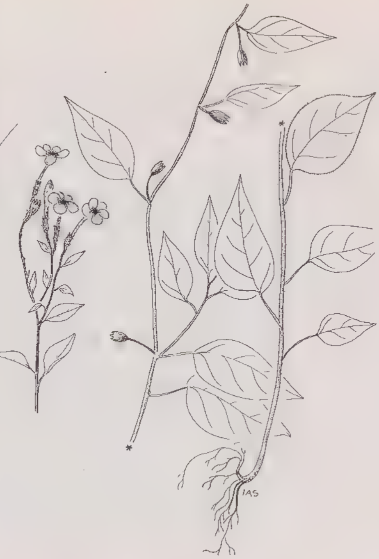
Acnistus arborescens (L.) Schlecht., Linnaea **7:** 67. 1832. FIGURE 110.

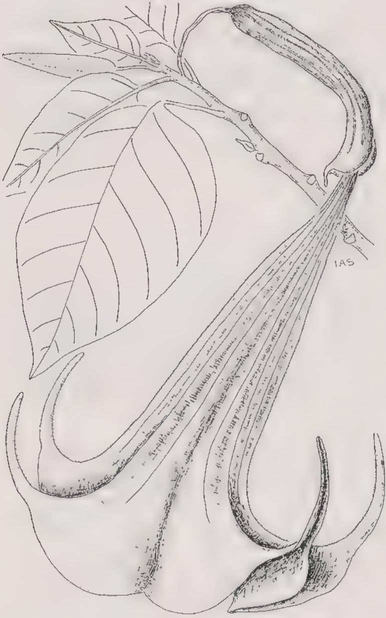
Basionym: *Atropa arborescens* L., Cent. Pl. **2:** 10. 1756; Amoen. Acad. **4:** 307. 1759. Type: Plum. sp. 1 cited.

Syn.: *Cestrum cauliflorus* Jacq., Hort. Schoenbr. **3:** 41, *t. 325. 1798.* (Type: ibid *t. 325.*).

Dunalia arborescens (L.) Sleumer, Lilloa **23:** 124. 1950.







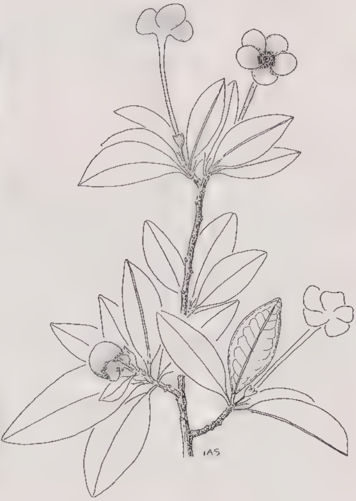


FIGURE 110 (upper left). *Acnistus arborescens*: a, leafy shoot, × 0.3; b, flower cluster, × 0.3; c, fruit, × 0.3. FIGURE 111 (upper right). *Browallia americana*: × 0.3. FIGURE 112 (lower left). *Brugmansia candida*: × 0.3. FIGURE 113 (lower right). *Brunfelsia americana*: × 0.3.

Shrub or small tree to 12 m; stems and leaves rusty-woolly-pubescent. Leaves with petioles 1-3 cm long; blades elliptic, oblong or ovate-elliptic, 5-30 × 3-14 cm, base cuneate, apex acute or acuminate, margins entire or slightly sinuate, glabrate or floccose-puberulent. Flowers in clusters of 30 or more, on pedicels 1-3.5 cm long, calyx campanulate, 2-4 mm long, teeth short, subentire, splitting in fruit; corolla 12 mm long, greenish-white, lobes short, ovate; stamens exserted. Berry globose, 8-11 mm in diameter, orange; seeds numerous, 0.5 mm long, shiny, rugose or foveolate.

General distribution: Greater Antilles, Central America, South America.

Distribution in Lesser Antilles: St. Martin!, Antigua!, Saba!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

Common names: Hollow heart, wild tobacco, siyou, bastard sirio, tabak djab.

BROWALLIA L.

Browallia L., Sp. Pl. **2:** 631. 1753.

Herb, branched, unarmed; stems terete, pubescence simple. Leaves ovate, entire. Flowers solitary, axillary, pedicels short, elongating in fruit, calyx tubular-campanulate, with simple or glandular hairs, lobes 4 or 5; corolla salverform, zygomorphic, with bulbous enlargement at top of tube; stamens 4, didynamous, upper pair with flattened pilose filaments, lower pair with basally geniculate filaments; ovules many on enlarged placentae, stigma elaborately expanded, into a furrowed wafer. Fruit erect 2-valved, septicidally dehiscent; seeds minute, prismatic, foveolate, embryo straight or slightly curved.

Type: *Browallia americana* L.

A genus of 2-6 species of tropical America.

Browallia americana L., Sp. Pl. **2:** 631. 1753. Figure 111.

Type: Hort. Cliff. (bm).
Syn.: *Browallia demissa* L., Syst. Nat. ed. 10. 1118. 1759. (Type: same as above.)
Browallia americana L. f. *violacea* Stehlé, Bull. Soc. Bot. Fr. **109:** 26. 1962. (Type: Guadeloupe, *H. & M. Stehlé 496.*)
Browallia americana L. f. *alba* Stehlé, Bull. Soc. Bot. Fr. **109:** 26. 1962. (Syntypes: *Duss 2125, Stehlé 4566.*)

Erect herbs to 60 cm, stems puberulent, with simple or glandular hairs. Leaves with petioles 0.5-3 cm long, blades ovate, 5-6 × 3-5 cm, base truncate, obtuse or acuminate, apex acute or acuminate, margins entire, mostly glabrous. Pedicels erect, 3-5 mm long, puberulent; calyx 5-10 mm long, lobes pointed or rounded, 2.5 mm long, tube becoming cupular in fruit. Corolla salverform, tube 12-15 mm long, limb 10-14 mm in diameter, blue, purple or white. Fruit erect, capsule, included in chartaceous calyx, seeds many, prismatic, 0.8-1 mm long, finely foveolate-reticulate.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America, often cultivated.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Grande violette, ne-m'oubliez-pas.

BRUGMANSIA Persoon

Brugmansia Pers., Syn. Pl. **1:** 216. 1805.

Unarmed trees or shrubs, pubescence simple, often viscid. Leaves simple, entire, petiolate. Flowers solitary on erect or pendulous pedicels; calyx tubular, inflated or angled, teeth 5, separating irregularly with 1 or more spathaceous lobes; corolla funnelform or tubiform, large, glabrous or variously pubescent, limb sinuate or 5-toothed, stamens equal, ovary conical, 2-loculed, with many ovules on expanded placentae, stigma mostly small and 2-lobed. Fruit a spheroidal or elongate woody indehiscent capsule, seeds large, wedge-shaped, embryo straight.

LECTOTYPE: *Brugmansia candida* Pers.

A genus of 5 species of South America, frequently cultivated elsewhere. For further information see M. L. Bristol, Bot. Mus. Leaflets **21:** 229-248. 1966.

KEY TO THE SPECIES

Calyx 3- to 5-toothed or lobed, pubescent outside; corolla white or colored, teeth 10-15 mm long; anthers coherent, 25-35 mm long.................... *B. suaveolens*
Calyx once cleft, puberulent or glabrous; corolla white, teeth 4-9 mm long; anthers free, 22-23 mm long.. *B. candida*

Brugmansia candida Pers., Syn. Pl. **1:** 216. 1805. FIGURE 112.

Type: *Datura arborea* Ruíz & Pavón, Fl. Peru **2:** 15, *t. 127.* 1799, non L.
Syn.: *Datura candida* (Pers.) Safford, J. Wash. Acad. Sci. **11:** 182. 1921.

Shrub or small tree to 5 m. Leaves with petioles 3-8 cm long, blades ovate or elliptical, 11-25 × 5-12 cm, base rounded or obtuse, apex acute, hairs scattered below. Pedicels 4 cm, erect but soon pendulous; calyx fine-puberulent outside, 10-12 cm long, once cleft, spathaceous; corolla white, 25-30 cm long, pendant, tubiform, flaring widely at limb, limb sinuately lobed, 15 cm across, 5 lanceolate lobes to 30 mm long, strongly recurved; anthers 23 mm long, ovary narrowly conical, 10-15 mm long. Fruit smooth, elliptical, indehiscent capsule; seeds reniform, wedge-shaped.

GENERAL DISTRIBUTION: Probably a native of Peru but now widely cultivated in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: St. Lucia!

COMMON NAME: Angel's trumpet.

NOTES: The name is frequently cited as *B.* × *candida* for the plant is a suspected hybrid of *B. aurea* Lagerh. and *B. versicolor* Lagerh. A wider distribution in cultivation is likely.

Brugmansia suaveolens (Willd.) Bercht. & Presl, Rostl. 1. Solanaceae 45. 1823.

Basionym: *Datura suaveolens* H. & B. ex Willd., Enum. Hort. Berol. 227. 1809. (Type: *Humboldt s.n.* B-W, IDC 7740. 14. III. 1, 2.)

Shrub or small tree to 5 m. Leaves with petioles 3-5 cm long, blades ovate, 15-30 × 5-12 cm, base rounded or obtuse, apex acute or acuminate, puberulent to pilose both sides. Pedicels 5 cm long, calyx broadly tubular, inflated in bud and remaining so, apically 5-lobed, lobes equal, 2-3 cm long, glabrate or pubescent. Corolla tubiform, swollen above, 25-30 cm long, limb sinuate lobed, 13 cm across, teeth narrowly lanceolate, 10-15 mm long, pendant; anthers 25-35 mm long, coherent into narrow tube.

GENERAL DISTRIBUTION: A native of South America but very widely introduced and cultivated in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAME: Angel's trumpet.

BRUNFELSIA L.

Brunfelsia L., Sp. Pl. **1:** 191. 1753.

Shrubs or small trees. Flowers large, terminal, clustered or solitary; calyx campanulate or tubular, 5-lobed or 5-cleft; corolla salverform, limb 5-lobed, spreading, lobes obtuse or rounded; stamens 4, didynamous, included, sometimes 2 sterile; ovary 2-celled, ovules many, style incurved at apex. Fruit globose or ovoid, fleshy or coriaceous, indehiscent or partly dehiscent capsule; seeds rugose, embryo curved.

TYPE: *Brunfelsia americana* L.

A genus of 40 species of tropical America. Valued for its aromatic flowers or as an ornamental for those which change colors in maturing. For further information see T. Plowman *in* Hawkes et al., Linn. Soc. Symposium **7:** 475-492. 1979.

Brunfelsia americana L., Sp. Pl. **1:** 191. 1753. FIGURE 113.

Type: Plum. Amer. *t. 22.*

Syn.: *Brunfelsia fallax* Duch. ex Griseb., Abh. Königl. Gess. Wiss., Gött. **7:** 242. 1857. (Type: Guadeloupe, *Duchassaing s.n.*, holotype, GOET.)

Brunfelsia americana var. *pubescens* Griseb. Fl. Brit. W. Indian Is. 432. 1864. (Type: Guadeloupe, *Duchassaing s.n.*, holotype, GOET.)

Shrub or small tree to 5 m tall. Leaves with petioles 3-8 mm long, blades elliptic, oblong or obovate, 5-13 × 2-6 cm, base narrowed or obtuse, apex acute, obtuse, emarginate, or apiculate, chartaceous, margin entire, glabrous or puberulent. Flower terminal, peduncle 2-4 cm long; calyx campanulate, 4 mm long in flower, enlarging to 7 mm in fruit, splitting and erose; corolla tube 4.5-7.5 cm long, lobes rounded, 1.4-2 cm in diameter, erose, white with purplish center, soon fading to yellow. Fruit globose, 1 to 2 cm in diameter, orange-yellow; seeds ellipsoid, 4 × 2 × 2 mm, tan, aveolate.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, but cultivated elsewhere in Neotropics.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent! (cultivated).

COMMON NAMES: Lady of the night, fleur-trompette, galant de nuit.

NOTE: *Brunfelsia maliformis* Urban is in cultivation on Montserrat.

CAPSICUM L.

Capsicum L., Sp. Pl. **1:** 188. 1753.

Annual or perennial herbs, much-branched. Flowers solitary in axils or in small cymes; calyx campanulate, truncate or toothed, slightly accrescent; corolla nearly rotate, lobes 5, imbricate, white; stamens 5, adnate to base of corolla; anthers bluish, dehiscent lengthwise; ovary 2- or 3-celled, stigma club-shaped. Berries red, yellow or green, often nodding; seeds flattened.

TYPE: *Capsicum frutescens* L.

A genus of 25 species of tropical America grown as ornamentals or edible vegetables or for the pungency of the fruits. The genetics of the many races of capsicum peppers has been studied almost exhaustively yet there is no consensus on the nomenclature to be used. The following treatment is derived from the work of Heiser & Pickersgill (Taxon **18:** 277-283. 1969); D'Arcy & Eshbaugh (Baileya **19:** 93-105. 1974), and Heiser & Pickersgill (Baileya **19:** 151-156. 1975).

KEY TO THE SPECIES

1. Pedicels mostly 1 to node, prominent constriction lacking between base of calyx and pedicel; corolla pure white to bluish-white.
   2. Fruits more than 1 cm across . . . . *C. annuum* var. *annuum*
   2. Fruits less than 1 cm . . . . *C. annuum* var. *glabriusculum*
1. Pedicels mostly 2 or more per node, prominent constriction sometimes present between base of calyx and pedicel; corolla dull white or greenish-white.
   3. Constriction absent between base of calyx and pedicel; corolla greenish-white, fruit usually erect, deciduous, soft-fleshed, style exserted 1.5 mm beyond anthers . . . . *C. frutescens*
   3. Constriction present between base of calyx and pedicel; corolla dull white, fruit usually pendant, persistent, firm-fleshed, style exserted 1 mm or less . . . . *C. chinense*

Capsicum annuum L. Sp. Pl. **1:** 188. 1753. FIGURE 114.

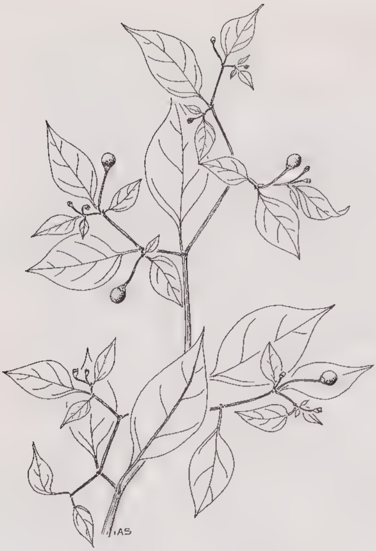
Lectotype: Herb. Hort. Cliff. 59 (BM).

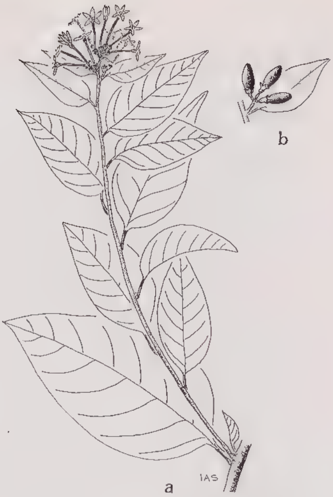
Erect, sprawling or semiscandent herb, 0.5-5 m tall, branches often divaricate, variously pubescent or glabrous. Leaves variable in size and shape on petioles 0.5-3 cm long, blades mostly ovate, 1-6 × 1-4 cm, base usually cuneate or rounded, apex usually short acuminate, margins entire, pubescent or glabrate. Pedicels mostly solitary, erect or ascending; calyx campanulate, truncate or with minute teeth; corolla campanulate to rotate, lobes variously developed, 0.5-1.2 cm in diameter, white or greenish-white, glabrous or puberulent; anthers bluish. Fruit globose, conical or cylindrical, red, red-orange or shade of red-purple, erect or recurved.

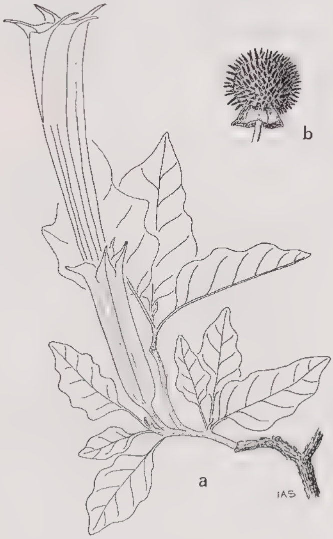
The typical variety includes the common garden pepper used in salads or as a cooked vegetable as well as the various cultivars of hot peppers used as condiments and varying considerably in their pungency. A very hot type is grown commercially on Montserrat, where the fruits are juiced and shipped to Trinidad and other countries to make ''hot sauces.'' The residual pulp was once used as a mulch in an orchard of mango trees but killed the mangoes.

The variety *glabriusculum* (Dunal) Heiser and Pickersgill (1974) is the common weedy ''bird pepper'' with fruits globose or conical-elongate. This material has been called ''C. baccatum'' or variety ''baccatum'' of different species in floristic treatments of the area. This is not the true *C. baccatum* L. as currently recognized from South America which is not represented in the Antilles. *Capsicum annuum* L. var. *glabriusculum* (Dunal) Heiser & Pickersgill is known from Anguilla!, St. Martin!, St. Barts!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada! and Barbados!. It is known also as piman cho, piment rond, piment cerise and piment.

Fruits of *Capsicum chinense* Jacq. (Hort. Bot. Vindob. **3:** 38, *t. 67.* 1776) have been seen in markets in the Lesser Antilles and are either imported or possibly grown in home gardens but no documentation is known. This is sometimes called the Puerto Rican pepper and is recognized as a compressed or pumpkin-shaped fruit strongly lobed on the margins and sold in a variety of colors, green, yellow, orange, red or purple.







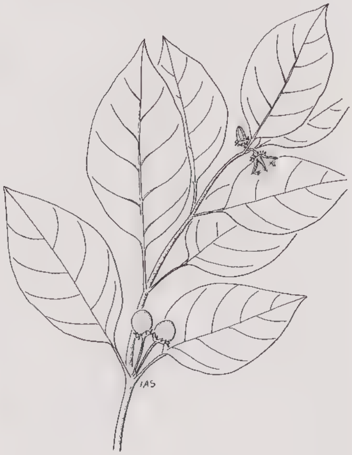


FIGURE 114 (upper left). *Capsicum annuum* var. *glabriusculum*: × 0.3. FIGURE 115 (upper right). *Cestrum alternifolium*: a, flowering shoot, × 0. b: fruit × 0.3. FIGURE 116 (lower left). *Datura metel*: a, flowering shoot, × 0.33; b, fruit, × 0.33. FIGURE 117 (lower right). *Lycianthes pauciflora*: × 0.33.

The true *Capsicum frutescens* L. is known from St. Lucia, St. Vincent and Grenada, apparently as cultivated plants. The fruits are generally paired, elongate and red or orange in color.

CESTRUM L.

Cestrum L., Sp. Pl. **1:** 191. 1753.

Mostly shrubs or herbs, much-branched, often divaricate. Leaves alternate, petiolate, entire. Flowers in cymes or panicles, axillary or extra-axillary; calyx 5-toothed or 5-lobed; corolla salverform, or funnelform, tube slender, lobes 5, spreading; stamens borne on corolla tube, filaments filiform, often pilose below, or geniculate with an appendage; ovary 2-celled, ovules few, style filiform, stigma dilated. Fruit a small berry, seeds oblong, smooth.

TYPE: *Cestrum nocturnum* L.

A genus of 175 species of tropical America. For further information see P. Francey, Candollea **6:** 46-398. 1935, **7:** 1-132. 1936.

KEY TO THE SPECIES

1. Mature leaves pilose, tomentose or at least puberulent below.
    2. Corolla tube infundibuliform, gradually widening; flowering along branches; corolla lobes linear-filiform; tube pubescent inside below the 1.5-5 mm long filaments; leaves exceeding 10 cm in length. . . . . *C. latifolium*
    2. Corolla tube cylindrical, spreading abruptly at apex; flowering at apex of branches; corolla lobes lanceolate, acute; corolla glabrous inside, filaments 0.5 mm long; leaves less than 10 cm long. . . . . *C. alternifolium*
1. Mature leaves glabrous, or puberulent along the veins.
    3. Corolla less than 2 cm long.
        4. Panicles short, not exceeding the petioles; leaf blades leathery when dry, bases rounded; filaments geniculate. . . . . *C. laurifolium*
        4. Panicles elongate, usually more than half the length of the leaves; leaf blades not leathery, base acute, decurrent on the petiole; filaments straight, not geniculate. . . . . *C. diurnum*
    3. Corolla more than 2 cm long.
        5. Leaves lanceolate-ovate, 8.5-22 cm long, inflorescence scarcely exceeding the petiole; flowers sessile; fruit blue-black. . . . . *C. megalophyllum*
        5. Leaves elliptical-lanceolate, 5-12 cm long, inflorescence about length of leaf; flowers and fruit conspicuously pedicellate; fruit white. . *C. nocturnum*

Cestrum alternifolium (Jacq.) O.E. Schulz, *in* Urban, Symb. Antill. **6:** 270. 1909. FIGURE 115.

Basionym: *Ixora alternifolium* Jacq., Enum. Syst. Pl. 12. 1760.
Type: Jacq. Select. Stirp. Amer. 16, *t. 177.* 1763, or Herb. Jacq., W, n.v.
Syn.: *Cestrum vespertinum* L., Mant. **2:** 206. 1771. (Type: Miller Gard. Dict. #5 cited, no specimens indicated.)
Cestrum depauperatum Dunal *in* DC., Prodr. **13**(1): 660. 1852. (Type: Guadeloupe, *Bertero s.n.* ex Herb. DC. IDC 800. 2116: II. 6.)

Shrub to 3 m tall, stems pubescent. Leaves with petioles 5-8 mm long, blades ovate, ovate-oblong or elliptic, 5-10 × 3-5.5 cm, base rounded or narrowed, apex acute or acuminate, pubescent on veins beneath. Panicles few- to several-flowered, umbelliform; calyx campanulate, to 3 mm long, teeth triangular, short and broad; corolla infundibuliform, 1-1.7 cm long, lobes narrowly linear, oblong, pubescent inside; stamens without dentition. Fruit ellipsoid, 9-15 mm long, black.

General distribution: Greater Antilles, Mexico, Central America, Venezuela.

Distribution in Lesser Antilles: Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Grenada!.

Common names: Galant de nuit, jasmin bâtard.

Cestrum diurnum L., Sp. Pl. **1:** 191. 1753.

Type: linn 258.4.
Syn.: *Cestrum fastigiatum* Jacq., Hort. Schoenbr. **3:** 44, *t. 330.* 1798. (Type: ibid *t. 330.*)
Cestrum diurnum L. var. *fastigiatum* (Jacq.) Stehlé *in* Fournet, Fl. Illus. Guad. Mart. 1281. 1978.

Shrubs or trees to 10 m tall; branches often dropping. Leaves with petioles 2.5 cm long, blades oblong-elliptic, 15 × 6.5 cm, base cuneate, apex acuminate, slightly falcate, entire. Flowers paniculate, mostly terminal, pedicels 0.3 mm long; calyx subcampanulate, 3 mm long, 5-toothed, puberulent inside and outside; corolla tube 13-18 mm long, greenish-white to cream, stamens not appendaged. Fruit ellipsoid, 6.5 mm long, purplish-black.

General distribution: Florida, Greater Antilles, and cultivated in Mexico, Central America, South America and in other tropical areas.

Distribution in Lesser Antilles: St. Barts, Guadeloupe!, Dominica!, Grenada!.

Note: The Lesser Antillean records are probably all of cultivated plants.

Cestrum latifolium Lam., Tab. Encycl. **2:** 5. 1794.

Type: Herb. Lam. ex Richard, P., IDC 6207. 475: I. 1.
Syn.: *Cestrum latifolium* Lam. var. *genuinum* Stehlé ex Fournet, Fl. Illus. Guad. Mart. 1282. 1978.

Shrub to 2.5 m tall, young branches ferruginous-pubescent becoming glabrate. Leaves with petioles 1 to 2 cm long, blades ovate, 4-12 × 2.5-10 cm, base obtuse, rounded, truncate or oblique, apex acute or short-acuminate, margin entire, pubescent, older leaves glabrous except for pubescence on midrib. Racemes 1-2 cm long, flowers subsessile; calyx 2-2.5 mm long, pilose, shortly 5-lobed; corolla tube infundibuliform, 1.6-2.8 cm long, widening above, lobes lanceolate-linear, acuminate, 4-6 mm long; stamens edentate, inserted above middle of tube, tube pubescent inside below stamens. Berry oblong or ovoid. 8 mm long, black.

General distribution: Jamaica, Central America, northern South America.

Distribution in Lesser Antilles: Dominica!, Martinique!, St. Lucia!, St. Vincent, Barbados!.

Common name: Jasmin sauvage.

Cestrum laurifolium L'Hérit., Stirp. Nov. **4:** 69, *t. 34.* 1788.

Type: ibid. *t. 34.*
Syn.: *Cestrum alaternoides* Poir., *in* Lam. Encycl. Suppl. **2:** 183. (Type: Living specimen in Hort. Paris.)
Cestrum lambertii Dunal *in* DC., Prodr. **13**(1)**:** 624. 1852. (Type: *Lambert s.n.*, G-DC, IDC 800. 2114: III. 2.

Shrub to 5 m tall. Leaves with petioles 1-2 cm long, blades elliptic, oblong or obovate-oblong, 6-12 × 3-7 cm, base rounded, apex blunt or short acuminate, shining. Cymes subsessile, flowers short pedicellate or subsessile; calyx 2 mm long, minutely 5-toothed, corolla infundibuliform, tube 10-12 mm long, lobes oblong-ovate, 1-2 mm long, blunt, yellow or greenish-yellow, pubescent within; filaments with tooth above base. Berry ovoid or subglobose, 6 mm long, purple-black.

General distribution: Greater Antilles.

Distribution in Lesser Antilles: Antigua!, Saba!, St. Eustatius!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

Common names: Candlewood, torch, bois-flambeau, citronnier.

Cestrum megalophyllum Dunal, *in* DC. Prodr. **18:** 638. 1852.

Lectotype: Trinidad, *Sieber 176* (G-DC, IDC 800. 2115: III. 1.)

Shrub or small tree to 9 m tall, stems glabrous. Leaves with petioles 10-12 mm long, blades oblong-elliptic, obovate-elliptic or elliptic, 8.5-22 × 3.5-8 cm, base acute to rounded, apex acuminate to short-cuspidate, cartilaginous, often falcate. Panicles axillary, subracemose, flowers subsessile to short pedicellate; calyx campanulate, 2-2.5 mm long, 5-toothed, pubescent outside; corolla narrowly infundibuliform, 18-20 mm long, pubescent inside, lobes 3.5-4.5 mm lanceolate, acute, white to yellow; stamens edentate. Berry ellipsoid, 9-11 mm long, blue-black or purple.

General distribution: Trinidad, Mexico, Central America, and widespread in South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Wild coffee, café marron, sureau dews bois.

Cestrum nocturnum L., Sp. Pl. **1:** 191. 1753.

Type: ex Jamaica, Hort. Cliff. BM.
Syn.: *Cestrum suberosum* Jacq., Hort. Schoenbr. **3:** 26, *t. 452.* 1798. (Type: ibid, *t. 452.*)

Shrub to 4 m tall, branches often drooping. Leaves with petiole blades ovate to elliptic-lanceolate, 5-12 × 3-6 cm, base rounded to broadly cuneate, apex acuminate, glabrate. Panicles axillary, to 10 cm long, pedicels to 9 mm long; calyx 3 mm; corolla 16-28 mm long, infundibuliform, ampliate at apex, pubescent inside, lobes lanceolate, acute, greenish-white to cream; filaments geniculate, with appendage. Berry 1 cm long, white.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, and widely introduced and cultivated in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Martinique! (cultivated).

DATURA L.

Datura L., Sp. Pl. **1:** 179. 1753.

Herbs or low shrubs. Leaves alternate, petiolate, large. Flowers solitary, erect, short-peduncled; calyx elongated-tubular, often angled, 5-cleft or spathelike, circumscissile; corolla funnelform, limb plaited, 5-lobed, acuminate; stamens included, filaments inserted below middle of corolla tube; ovary 2-celled, style filiform. Capsule 4-valved, or splitting irregularly.

TYPE: *Datura stramonium* L.

A genus of 8 species of the Americas but now widely introduced and naturalized elsewhere. Many species possess hallucinogenic chemicals or are toxic. For further information see A. S. Barclay, Bot. Mus. Leaflets **18:** 245-272. 1959.

KEY TO THE SPECIES

1. Fruit erect, capsule ovoid, dehiscing by 4 valves, spines slender, longer at apex, sparsely pubescent soon glabrate; seeds black; flowering calyx 2.5-3.5 cm long; corolla 6-9 cm long, generally white .... *D. stramonium*
1. Fruit pendulous, inclined or nodding, dehiscence irregular; calyx 5-12 cm long; corolla 10-16 cm long; seeds brown or black.
    2. Spines of capsule subulate, often curved, 8-20 mm long; corolla white.... .... *D. inoxia*
    2. Spines of capsule deltoid, 2-4 mm long; corolla white with purple lines, often double .... *D. metel*

Datura inoxia Miller, Gard. Dict. ed. 8. 1768.

Type: Cultivated plant grown from seeds from Mexico, BM.
Syn.: *Datura metel* sensu Griseb. non L.

Annual, often shrubby to 1.5 m tall, softly pubescent, often malodorous. Leaves with petioles 3-7 cm long, blades broadly ovate, 7-20 × 4-10 cm, base rounded to cordate, apex acute, margin sinuate or subdentate. Flowers solitary in dichotomy of stem, erect, pedicels 7-15 mm long; calyx lax, 11-14 cm long, 5-toothed, lobes 1-2.2 cm long, circumscissile at base; corolla tube 16-21 cm long, limb spreading, short 1-toothed, to 10 cm diameter, white; anthers 10-17 mm long. Capsule subglobose, 3-4.5 cm long, nodding, pubescent, prickles 8-20 mm long, flexible, subtended by winged collar to 7 cm broad; seeds flattened, 4-5 mm long, shiny, minutely foveolate.

GENERAL DISTRIBUTION: Southeastern United States south to South America, Greater Antilles, and widely introduced in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, Guadeloupe!, Martinique!, the Grenadines!, Barbados!.

COMMON NAMES: Wild tobacco, wildfire, thorn apple, David bush, concombre-diable, concombre à chien.

Datura metel L., Sp. Pl. **1:** 179. 1753. FIGURE 116.

Type: Hort. Cliff. 55.2 (BM).
Syn.: *Datura fastuosa* sensu Griseb. non L.

Low shrub, to 1.5 m, annual, stems glabrous. Leaves with petioles 3-7 cm long; blades ovate to ovate-lanceolate or elliptic, 6-15 × 3-10 cm, base unequal, apex acute, margins sinuate or irregularly toothed, both surfaces pubescent to glabrate. Calyx 5-toothed, 5-7 cm long; corolla funnelform, 15-18 cm long, limb 5-toothed, spreading to 10 cm in diameter, white or mauve, often double. Capsule nodding, ovoid, 4-6 m long, prickles 2-4 mm long, basal collar 3 cm broad.

GENERAL DISTRIBUTION: Cultivated throughout the tropics but now thought to be native to the Caribbean islands.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Martinique!, Barbados!

COMMON NAME: David bush, trompette du jugement.

Datura stramonium L., Sp. Pl. **1:** 179. 1753.

Type: Hort. Cliff. 55.1 (BM)

Erect annual, to 1 m tall, stems glabrous, foliage foetid. Leaves with petioles 2-5 cm, blades ovate to lanceolate, 6-18 × 4-10 cm, base cuneate to rounded, apex acute, margin irregularly toothed or lobed, glabrous. Flowering pedicels 5-7 mm long, extending in fruit; calyx 3.5-5 cm long, lobes 5, 5-7 mm long; corolla tube 7-10 cm, limb 5-toothed, to 4 cm in diameter, white. Capsule erect, ovoid, 3-4 cm long, upper prickles longer than lower, to 8 mm long, 4-locular, dehiscing to near the base, collar sharply reflexed, 5-10 mm long.

General distribution: Native of Mexico but growing as a weed in many countries.

Distribution in Lesser Antilles: Anguilla!, St. Barts!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Martinique!, St. Vincent!, Barbados!.

Common names: David bush, comcombre à chien.

Note: *D. stramonium* var. *tatula* (L.) Torr. is recognized by some workers for plants with stems purplish and the corolla mauve.

LYCIANTHES Hassl.

Lycianthes Hassl., Ann. Conserv. Jard. Genève **20:** 180. 1917, nom. cons.

Shrubs or vines, mostly unarmed, glabrous or variously pubescent. Leaves simple, mostly entire. Inflorescence solitary or fascicled in leaf axils, few to many-flowered; calyx campanulate, truncate, 10-ribbed, toothed on ribs from below the apex; corolla rotate, 5-lobed; stamens 5, filaments inserted on corolla tube, anthers poricidal, sometimes connate; ovary 2-ovuled, ovules few to many on expanded placentae. Fruit a berry, globose or pyriform; seeds compressed discoid, embryo circinnate.

Type: *Solanum lycioides* L. = *Lycianthes lycioides* (L.) Hassl.

A genus of 200 species mostly of tropical America.

Lycianthes pauciflora (Vahl) Bitter, Abh. Naturwiss. Vereine Bremen **24:** 341. 1920. Figure 117.

Basionym: *Solanum pauciflorum* Vahl, Eclog. **1:** 20. 1796.
Type: Martinique, collector uncertain, (holotype, c).
Syn.: *Solanum neglectum* Dunal, Hist. Sol. 177. 1813. (Type: *Sieber 358* (b, presumably destroyed).)
Solanum speciosum Dunal, Hist. Sol. 179. 1813. (Type: Plum. Pl. Amer. 242, *t. 245, f. 4.*)

Climbing shrub; young stems with stalked-stellate hair clusters. Leaves with petioles 12-35 mm long, tomentulose; blades ovate, 6-14 × 3-7 cm, base unequally rounded, apex acuminate, entire, nerves in 4 pairs, brown-stellate pubescent. Inflorescence sessile, umbelliform, 1- to 5-flowered; pedicels 6.5-15 mm, hirsute; calyx 5 mm long, 10-toothed, ciliate margined, stellate-pubescent outside; corolla rotate, 5-angulate-sinuate, 12-15 mm long, white, anthers 4-5 mm long. Fruiting calyx spreading or retracted, berry globose 9-11 cm in diameter, red; seeds flattened.

General distribution: Trinidad and lowland South America.

Distribution in Lesser Antilles: Guadeloupe, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

LYCIUM L.

Lycium L. Sp. Pl. **1:** 191. 1753.

Shrubs, often spiny. Leaves alternate, small, commonly with axillary fascicles of smaller leaves. Flowers axillary, solitary or clustered; calyx campanulate, 3- or 5-lobed or toothed, persistent; corolla tube short or slender, limb 5-lobed; stamens 5, filaments often dilated at base; ovary 2-celled, style filiform, stigma capitate or bilobed. Berry globose, ovoid or oblong; seeds numerous.

TYPE: *Lycium afrum* L.

A genus of 100 species of warm temperate and tropical areas.

Lycium americanum Jacq., Select. Stirp. Amer. Hist. 50. 1763.
FIGURE 118.

Type: "insulae Domingo" but no Jacquin specimens known.
Syn.: *Lycium americanum* L. var. *chrysocarpum* Urban & Ekm., Ark. Bot. **22A:** 49. 1929. (Type: Dominican Republic, *Ekman 6729.*)
Lycium tweedianum Griseb. var. *chrysocarpum* (Urb. & Ekm.) Hitchc., Ann. Missouri Bot. Gard. **19:** 224. 1932.

Branched shrub to 3 m tall, branches slender, glabrate, armed with pointed branchlets. Leaves with petioles 1-2 mm long, blades spatulate to oblong-obovate, 7-25 × 2-15 mm, base tapering to petiole, apex rounded, fascicled, glabrous. Flowers solitary to few in clusters, pedicels 4-15 mm long; calyx campanulate, 2.5-4 mm long, 4-lobed, ciliolate; corolla narrowly tubular, flaring above, constricted above ovary, tube 4.5-6.5 mm long, lobes 4 or 5, spreading, ciliolate; filaments pubescent above the base. Berry ovoid or subglobose, 6 mm long, red turning black.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Trinidad.

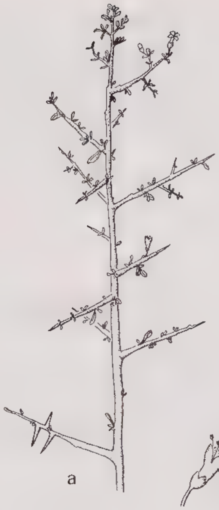
DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Antigua!, Guadeloupe!.

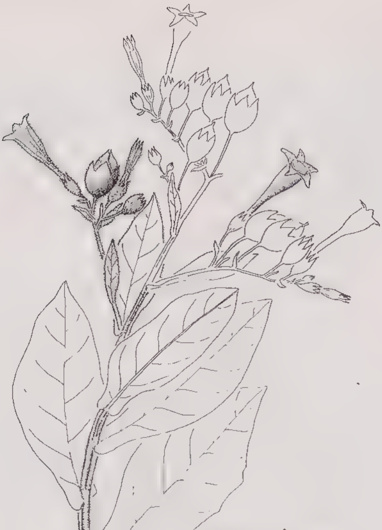
NOTES: For further information and synonymy see L. M. Bernardello, Kurtziana **17:** 133-137. 1984. F. Chiang (pers. comm.) has indicated that he accepted Barkley's decision (Lilloa **26:** 177-238. 1953) to place *L. tweedianum* Griseb. in the synonymy of *L. nodosum* Miers. His annotation of specimens with labels establishing var. *chrysocarpum* of the latter species has not been published. Bernardello (Kurtziana **17:** 131-133. 1984 recognized *L. nodosum* Miers as a distinct and endemic species of South America.

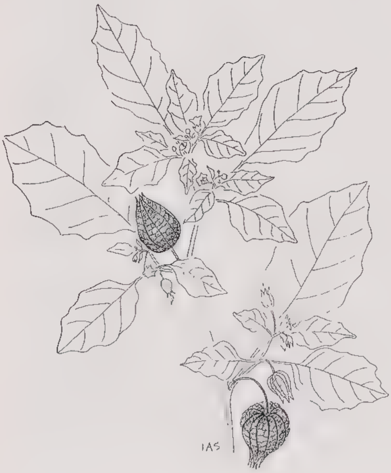
NICOTIANA L.

Nicotiana L., Sp. Pl. **1:** 180. 1753.

Herbs or shrubs with alternate leaves. Inflorescence terminal, panicles or racemes; calyx tubular-campanulate, 5-cleft; corolla tubular, limb 5-lobed,







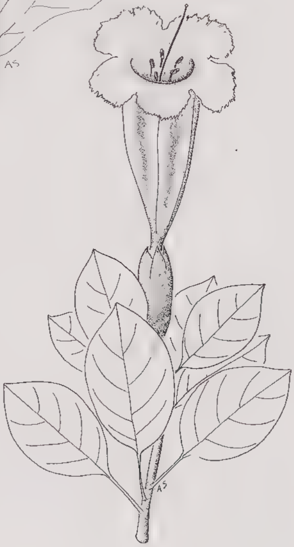


FIGURE 118 (upper left). *Lycium americanum*: a, flowering shoot, × 0.33; b, flower, × 0.33. FIGURE 119 (upper right). *Nicotiana tabacum*: × 0.33. FIGURE 120 (lower left). *Physalis angulata*: × 0.33. FIGURE 121 (lower right). *Solandra grandiflora*: × 0.2.

spreading; stamens 5, inserted on corolla tube, filaments filiform; ovary 2-celled, style slender, stigma capitate. Capsule bivalved, seeds numerous.

LECTOTYPE: *Nicotiana tabacum* L.

A genus of 67 species of tropical America, Africa and Australia.

KEY TO THE SPECIES

Perennial shrubs; leaves glabrous and glaucous; flowers yellow....... *N. glauca*

Annual, cultivated or residual herbs; leaves viscid-pubescent; flowers rose, pink or whitish.. *N. tabacum*

Nicotiana glauca Graham, Edinb. New Philos. J. **5:** 175. 1828.

Type: Cultivated plant at Edinburgh, grown from seeds from Argentina.

Shrub to 6 m tall. Leaves on petioles 3-5 cm long; blades ovate-elliptic or lanceolate, 5-15 × 3-6 cm, base cordate, apex acute. Inflorescence to 20 cm long, pedicels 3-10 mm long; calyx cylindric, 1-1.5 cm long, lobes narrowly triangular, 2 mm long; corolla tube 3-3.5 cm long, 6-8 mm in diameter, yellow. Capsules 7-15 mm long; seeds angular, 0.5 mm long.

GENERAL DISTRIBUTION: Native of South America but widely distributed in tropics as a weed.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, Barbados!.

NOTES: *Nicotiana noctiflora* Hooker was once cultivated at the St. Pierre Botanic Garden, Martinique.

Nicotiana tabacum L., Sp. Pl. **1:** 180. 1753. FIGURE 119.

Type: LINN 245.1.

Annual herb, often persisting, to 2 m tall, pubescence viscid. Leaves subsessile; blades oblong to oblong-lanceolate, to elliptic, 10-50 × 3-30 cm, base narrowed to decurrent on the stem, apex acute to acuminate, margin entire, thin or membranous. Inflorescence terminal panicle, to 30 cm long; pedicels to 2 cm long; calyx campanulate, 12 mm long, lobes ovate,, acute; corolla funnelform, to 5 cm long, lobes angular-subulate, pink. Capsule ovoid, 15-20 mm long, exserted or included in calyx, septicidal; seeds globose or ellipsoid, 0.5 mm long, ridged, brown.

GENERAL DISTRIBUTION: Native of tropical America, commonly cultivated.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Redonda!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

NOTES: Probably cultivated on all of the islands but poorly collected.

PHYSALIS L.

Physalis L., Sp. Pl. **1:** 182. 1753.

Herbs, occasionally woody below. Flowers solitary in axils, pedunculate; calyx campanulate, 5-lobed, enlarging and becoming inflated in fruit, membranous, 5- or 10-angled or ribbed, reticulated; corolla campanulate, to rotate, plicate, usually with purple or brown center; stamens 5, inserted near base of corolla; ovary 2-celled, style slender. Fruit a berry, seeds numerous, kidney-shaped, flattened, embryo circinate, peripheral.

TYPE: *Physalis alkekengi* L.

A genus of 90 species, strongly centered in Mexico but of cosmopolitan distribution. For further information see W. T. Waterfall, Rhodora **69:** 82-120, 203-239, 319-329. 1967.

KEY TO THE SPECIES

1. Stems, petioles and blades densely pubescent, or glandular-pubescent; fruiting calyx 5-angled.
    2. Pubescence dense, of glandular hairs; fruiting calyx to 3 cm long .... *P. pubescens*
    2. Pubescence loose, glandular-hairs few or wanting; fruiting calyx 4-5 cm long .... *P. turbinata*
1. Stems, petioles and blades sparsely pubescent with short hairs or long and short hairs mixed.
    3. Pedicels 3-8 mm long in fruit.
        4. Pubescence of long and short hairs; calyx 10-ribbed with white hairs on ribs; leaves small, to 4 cm long; corolla 5-7 mm long .... *P. minima*
        4. Pubescence of few short hairs or plant glabrate; calyx 10-ribbed with hairs scattered; leaves usually more than 4 cm long; corolla 10-15 mm long .... *P. philadelphica*
    3. Pedicels 1-2.5 cm long in fruit.
        5. Calyx lobes linear-lanceolate, calyx 5-angled in fruit .... *P. cordata*
        5. Calyx lobes deltoid, calyx 10-angled in fruit .... *P. angulata*

Physalis angulata L., Sp. Pl. **1:** 183. 1753. FIGURE 120.

Type: LINN 247.9.

Syn.: *Physalis ramosissima* Miller, Gard. Dict. ed. 8. 143. 1768, nom. illegit.
Physalis linkiana Nees, Linnaea **6:** 471. 1831. (Type: Brazil, collector not stated, holotype, B, presumed destroyed.)
Physalis capsicoides Dunal *in* DC. Prodr. **13**(1)**:** 449. 1852. (Type: Many syntypes cited.)
Physalis angulata L. var. *capsicifolia* (Dun.) Griseb., Syst. Veg. Karaib. 96. 1857.
Physalis angulata L. var. *linkiana* (Nees) Griseb., Syst. Veg. Karaib. 96. 1857.
Physalis angulata L. f. *genuina* Stehlé, Bull. Soc. Bot. Fr. **109:** 28. 1962.
Physalis angulata L. f. *linkiana* (Nees) Stehlé, Bull. Soc. Bot. Fr. 109: 28. 1962.
Physalis angulata L. var. *ramosissima* (Miller) Stehlé, Bull. Soc. Bot. Fr. **109:** 28. 1962.

Annual plant to 1 m tall, branched, glabrous or with few hairs. Leaves on petioles 4-8 cm long, blades ovate to ovate-lanceolate, 5-11 × 3.5-8 cm, usually deeply and irregularly sharply incised-toothed, rarely entire. Pedicels 5-10 mm long; calyx 3-5 mm long, glabrous except at margins and tips of lobes, lobes broadly acute; corolla immaculate or with 5 indistinct spots, 6-12 × 7-12 mm; anthers bluish 2-2.5 mm long. Pedicels in fruit 10-25 mm long; fruiting calyx 10-angled or ribbed, 20-35 mm long, 17-22 mm wide; berry 10-12 mm in diameter.

General distribution: Of great range from central U. S. to Argentina and widespread in the Old World.

Distribution in Lesser Antilles: Antigua!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines, Grenada! Barbados!.

Common name: Poc.

Physalis cordata Miller, Gard. Dict. ed. 8, #14. 1768.

Type: Mexico, Houstoun specimen in Sloane Herb.

Annual herb, to 80 cm tall, sparsely pubescent. Leaves on petioles 3-9 cm long, blades ovate, 3-8 × 2.5-8 cm, base oblique and unequal, apex acuminate, margins sparsely toothed. Pedicels 4-10 mm long; calyx 5-6 mm long, divided into narrow, acuminate lobes; corolla 5-10 mm long, 9-22 mm wide, yellow, maculate, hairy in throat; anthers bluish-green, 1.8-3 mm long, filaments hairy. Pedicels in fruit 10-25 mm long; fruiting calyx 5-angled, turbinate, cordate at base, glabrous, 24-42 × 20-25 mm, teeth narrow-lanceolate, 7-10 mm long. Berry globose, 7-15 mm in diameter.

General distribution: Greater Antilles, Mexico, Central America, South America.

Distribution in Lesser Antilles: Anguilla!, St. Barts!, Guadeloupe!, Dominica!, St. Vincent!, Barbados!.

Common names: Poc, herbe à cloque.

Physalis minima L., Sp. Pl. **1:** 183. 1753.

Lectotype: Herb. Hermann, BM.
Syn.: *Physalia lagascae* Roem. & Schultes, Syst. Veg. **4:** 679. 1819. (Type: based on *P. parviflora* Lagasca, Gen. Sp. Diag. 11. 1816, type not seen, non Zuccagni).
Physalis micrantha Link, Enum. Hort. Berol. **1:** 181. 1821-2, illegit. nom. nov.

Annual to 90 cm tall, stems with jointed hairs 2-4 mm long. Leaves with petioles 1-3 cm long, blades ovate to ovate-lanceolate or rhombic, 2-4 × 12.3 cm, base inequilateral, apex acuminate to acute, or obtuse, margins entire to irregularly dentate. Pedicels 2-5 mm long; calyx 3-4 mm long, lobes deltoid, 0.7-1.5 mm long, long hairy; corolla maculate, 5-7 mm long, 5-6 mm wide, hairy on tube; anthers bluish 1.2-1.5 mm long. Fruiting pedicels 3-6 mm long, fruiting calyx 10-ribbed, pubescent or glabrate, 13-20 × 12-20 mm. Berry globose, 6-10 mm in diameter.

General distribution: Mexico, Central America.

Distribution in Lesser Antilles: Reported from Martinique (*Duss 4050*, n.v.) by Waterfall (Rhodora 69: 220. 1967). The collection had been referred to *P. micrantha* Link by Schulz (*in* Urb., Symb. Antill. **6:** 148. 1909) and as such is recognized by Fournet. Waterfall rejected *P. minima* as a nomen confusum but H. Heine (Fl. Nouv. Caled. **7:** 130. 1976) lectotypified the Linnaean epithet and placed *P. lagascae* in synonymy.

Physalis philadelphica Lam., Encycl. Meth. Bot. **2:** 101. 1786.

Type: Lamarck herb. P, IDC 6207. 471: I. 5.

Annual herb to 60 cm tall, stems with appressed short hairs and long spreading ones. Leaves with petioles 1-2.5 cm long, blades ovate to ovate-lanceolate, 2-7 × 1.5-3 cm, base oblique, obtuse, apex acuminate, margins dentate, sinuate-dentate or entire. Pedicels 3-7 mm long; calyx 3 mm long, lobes deltoid, with short spreading hairs on fruiting calyx; corolla rotate-reflexed, 10-18 mm wide, yellow, maculate; anthers bluish, 3 mm long. Pedicels in fruit 3-8 mm long, fruiting calyx 10-ribbed, 2-3 cm long. Berry globose, 10 mm in diameter, filling calyx.

General distribution: Native of Mexico but cultivated and naturalized there and elsewhere.

Distribution in Lesser Antilles: Nevis (*Proctor 19451*, GH).

Physalis pubescens L., Sp. Pl. **1:** 183. 1753.

Type: LINN 247.11.
Syn.: *Physalis foetens* sensu Griseb., non Poir.
Physalis pubescens L. var. *minutifolia* Schulz *in* Urb. Symb. Antill. **6:** 145. 1909. (Type: Barbados, *Eggers 7309* n.v.)

Annual herb to 30 cm, stems densely pubescent. Leaves on petioles 2-5 cm long, blades ovate, 4-10 × 2-6 cm, base rounded to cordate, apex acute or acuminate, margin coarsely and irregularly toothed to subentire. Pedicel 3-10 mm long; calyx 5-10 mm long, lobes lanceolate, acute or acuminate; corolla 6-12 mm long, yellow with purple spots, anthers purple, 1.5-3 mm long. Fruiting calyx 3 cm long, strongly 5-angled; berry globose, 12-15 mm in diameter.

General distribution: Greater Antilles, Mexico, Central America, South America.

Distribution in Lesser Antilles: Antigua!, Saba!, Redonda!, Guadeloupe!, Dominica!, Martinique!.

Common names: Poc, herbe à cloque.

Physalis turbinata Medicus *in* Acad. Theod.-Palat. **4:** 189, 190. 1780.

Type: ibid *t. 5, f. 2.*
Syn.: *Physalis barbadensis* Jacq. Misc. Austr. **2:** 356. 1781. (Type: A living plant, no specimen seen.)
Physalis hirsuta Dunal var. *barbadensis* (Jacq.) Dunal, *in* DC., Prodr. **13**(1): 446. 1852.

Annual to 1 m tall, stems with spreading hairs, trichomes jointed, often glandular-tipped. Leaves on petioles 2-7 cm long, blades ovate, 5-11 × 4-8 cm, base subcordate to short cuneate, apex attenuate, margin entire to sinuately dentate. Pedicels 4-6 mm long; calyx 4-6 mm long, lobes narrowly lanceolate; corolla yellow, maculate, 6-12 mm × 7-15 mm wide; anthers bluish 2-2.8 mm. Pedicels 5-15 mm, fruiting calyx 5-angled, cordate at base, 3-4 cm long, 2-3 cm wide, soft-pubescent. Berry globose, 9-13 mm in diameter.

General distribution: Greater Antilles, Mexico, Central America.

Distribution in Lesser Antilles: Antigua!, Montserrat!, Martinique!, St. Vincent!, Barbados!.

Note: Waterfall (Rhodora **69:** 322. 1967) stated "this species is similar to *P. pubescens* and tends to merge with it in its extreme manifestations but the flowers and fruiting calyx are larger, and the latter have longer, and usually narrower calyx lobes . . ." This distinction seems to hold in the limited material available from the Lesser Antilles. Fournet (1978) considered *P. turbinata* Medic. to be a synonym of *P. cordata.*

SOLANDRA Sw.

Solandra Sw., Königl. Vetensk.-Akad. Nya. Handl. **8:** 300. 1787.

Woody lianas, or sometimes epiphytes. Leaves alternate, entire, coriaceous, glabrous or pubescent. Flowers large, slightly zygomorphic, with short stout pedicels at ends of branches; calyx tubular, zygomorphic, 2- or 5-lobed, sometimes 3-ridged; corolla large, infundibuliform or cyathiform, white or yellow, lobes 5, overlapping in bud, entire or laciniate; stamens 5, subequal, exserted or included, filaments declinate, pubescent at point of attachment, anthers basifixed, 6-13 mm long; ovary 2 carpellate, 4-locular, partly inferior, ovules numerous, style slender, declinate. Calyx persisting in fruit, berry conical, leathery, seeds compressed, discoidal or kidney-shaped, embryo curved.

Type: *Solandra grandiflora* Sw.

A genus of 10 species, mostly in Mexico but through Central and South America. For further information see Bernardello & Hunziker, Nord. J. Bot. **7:** 639-652. 1987.

KEY TO THE SPECIES

Corolla 23-37 cm long, cylindrical base of corolla tube longer than expanded apical portion, always exceeding the calyx; cultivated.......... *S. longiflora* Tussac

Corolla 15-23 cm long, cylindrical basal portion of tube as long as or shorter than expanded apical portion, usually shorter than calyx........... *S. grandiflora*

Solandra grandiflora Sw., Königl. Vetensk.-Akad.Nya Handl. **8:** 300-306. *t. 11.* 1787. FIGURE 121.

Type: Jamaica, *Swartz s.n.*, n.v.
Syn.: *Solandra minor* Griseb., Fl. Brit. W. Indian Is. 433. 1862. (Type: Dominica, *Imray 141* (K, isotype).

Climbing vine or epiphyte. Leaves with petioles 3-5 cm long, blades broadly elliptic, base obtuse, apex acuminate, coriaceous, shiny, glabrous. Pedicels stout, sometimes tuberculate; calyx tubular or campanulate, 4-9 cm long, angled, inflated, splitting 1/4 to 3/4 into 3 to 5 lobes, lobes mostly apiculate, glabrous; corolla crateriform, 15-23 cm long, cylindrical basal portion as long as expanded apical portion, and the calyx, yellow or golden, with 5 purplish ribs, lobes rounded often erose; anthers 6-8 mm long. Fruit not seen.

GENERAL DISTRIBUTION: Greater Antilles, Panama, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

COMMON NAME: Liane-trompette.

NOTE: Fournet (1978) cited *S. guttata* Don and "S. nitida Zucc." (= *S. longiflora* Sw.) as being cultivated here and there in the French islands. No documenting specimens have been seen.

SOLANUM L.

Solanum L., Sp. Pl. **1:** 184. 1753.

Herbs, shrubs, trees or lianas, armed or unarmed, glabrous or pubescent with simple, branched, stellate or glandular pubescence. Leaves petiolate or sessile, simple or compound, entire or lobed, estipulate. Inflorescence terminal or axillary or extra-axillary, racemose, scorpioid or umbellate, rarely single-flowered, ebracteolate, flowers pedicellate, mostly perfect, 5-merous, rarely zygomorphic; calyx usually lobed, sometimes accrescent in fruit; corolla usually rotate, tube short, deeply or shallowly lobed; stamens equal or unequal, inserted on the corolla, filaments sometimes connate, often pubescent, anthers basifixed, connivent, connate or free, poricidal; ovary 2-loculed, placentae expanded, ovules numerous, style terminal, caducous, stigma 2-to 4-lobed. Fruit a fleshy, woody or dry berry; seeds numerous, flattened; embryo circinate.

TYPE: *Solanum nigrum* L.

A genus of ca. 1400 species world wide in distribution. Some cultivated and economically important, others ornamental and many weedy.

Key to the Species

1. Climbing plants.
2. Plants unarmed; at least some leaves pinnately divided; panicles diffuse, terminal; calyx entire or nearly so; corolla blue . . . . *S. seaforthianum*
2. Plants armed with short recurved or retrorse spines; leaves entire or commonly sinuate-margined; inflorescence racemose; calyx lobed, flowers white . . . . *S. lanceifolium*
1. Herbs, shrubs or small trees.
3. Herbs or rarely sturdy annuals.
4. Plants without spines.
5. Leaves pinnately compound or divided; flowers terminal rarely producing yellow fruit; cultivated, the potato . . . . *S. tuberosum*
5. Leaves simple; flowers in peduncled extra-axillary umbels; fruit black . . . . *S. americanum*
4. Stems armed with spines.
6. Corolla deeply divided into segments, white, 12 mm in diameter . . . . *S. capsicoides*
6. Corolla shallowly 5-lobed, violet, 2-2.5 cm in diameter . . . . *S. latifolium*
3. Shrubs or small trees.
7. Plants spiny.
8. Leaves sessile, blades cuneate or decurrent at the base, inflorescence subsessile . . . . *S. jamaicense*
8. Leaves distinctly petiolate.
9. Inflorescence racemose, 10- to 20-flowered, leaves lanceolate with entire or wavy margins.
10. Spines slender, straight . . . . *S. racemosum*
10. Spines stout, sharply recurved . . . . *S. lanceifolium*
9. Inflorescence cymose, or ± paniculate.
11. Young stems densely acicular spiny; leaves oblong, margins wavy, pedicels and calyx with long-stalked-stellate hairs . . . *S. urens*
11. Spines few and scattered.
12. Pubescence pilose of long simple hairs; corolla blue-violet; fruit 6 cm long, conical with one or several blunt lobes at base, yellow . . . . *S. mammosum*
12. Pubescence of stellate hair clusters; flowers white; fruit globose, 8-10 mm dia., green . . . . *S. torvum*
7. Plants unarmed.
13. Leaves glabrous except for axillary tufts of hairs.
14. Flowers small, calyx 1-1.6 mm long; corolla 4-6 mm long, anthers 2-2.5 mm; fruit green to black . . . . *S. nudum*
14. Flowers larger, calyx 3 mm long; corolla 8-12 mm long, anthers 4 mm; fruit yellow . . . . *S. triste*
13. Leaves pubescent.
15. Inflorescence racemose, flowers 10-20, leaves entire, fruit red . . . . *S. racemosum*
15. Inflorescence cymose.

16. Flowers in short cymes; leaves sinuate-margined with angular or rounded small lobes; corolla purple; ovary and fruit glabrous, elongate, usually 10 cm or more, purple, yellow or white; cultivated, eggplant .... *S. melongena*

16. Inflorescence terminal, long-peduncled; corolla white; fruit globose, less than 11 mm dia.

  17. Buds globose with swollen base; pubescence echinate-stellate with more than 12 short rays...... *S. hazenii*

  17. Buds elongate without swollen base; pubescence porrect-stellate with fewer than 12 long rays.

    18. Hairs of young stems and lower leaf surface sessile; calyx lobes pubescent within; fruit sparsely pubescent .... *S. rugosum*

    18. Hairs of young stems and lower surface mostly stalked; calyx lobes glabrous within; fruit glabrous....... .... *S. bicolor*

CULTIVATED AND EXCLUDED TAXA

Solanum agrarium Sendtn. Reported by Fournet as *S. argillicolum* Dunal from St. Barts (Stehlé & Stehlé 6771).

Solanum crotonoides Lam. A specimen collected by "Martin" (P) attributed to Martinique is certainly from Hispaniola.

Solanum globiferum Dunal (Prodr. **13**(1): 251. 1852) is attributed to Martinique on a collection by Gillet. Can not be verified.

Solanum hirtum Vahl. This species was introduced from Trinidad to the St. Vincent Botanic Garden by Anderson. It is attributed to St. Vincent in the Flora of St. Vincent (Kew Bull. **1893:** 265. 1893) where an *H. H. & G. W. Smith 1946* collection was cited. That collection has not been located.

Solanum macrocarpum L. Represented by *Duss 18* from Antigua and *Duss 2881* from Guadeloupe as cultivated. Not recollected recently.

Solanum melongena L., the eggplant, or aubergine is reported under cultivation and spontaneous by Fournet for the French islands and represented by specimens from St. Lucia and St. Vincent.

Solanum polygamum Vahl. Reported from Guadeloupe by Schulz (*in* Urb. Symb. Antill. **6:** 192. 1894) based on a collection by Duchassaing has not been located.

Solanum pyrifolium Lam. A specimen collected by "Martin" (P) attributed to Martinique is certainly from Hispaniola.

Solanum riedlei Dunal was cited by Britton & Wilson (Fl. Porto Rico **6:** 167. 1925) as "doubtfully attributed to Puerto Rico." Fournet (1978) listed the species as of questionable locality but Puerto Rico or Guadeloupe. No material comparable to the description has been seen.

Solanum sisymbriifolium Lam. was collected by Plée on Martinique presumably from the St. Pierre Botanic Garden.

Solanum tuberosum L., the potato, or pomme de terre, is represented by a single collection from Montserrat. It certainly is cultivated on other islands.

Solanum umbellatum Miller cited for Martinique by Fournet (1978) but not documented. Roe (Brittonia **19:** 368. 1967) records this species from the Greater Antilles but not the Lesser Antilles.

Solanum wendlandii Hook. f. Reported under cultivation by Fournet, not documented.

Solanum wrightii Bentham. Reported from Barbados. Not verified.

Solanum aethiopicum L., Cent. Pl. **2:** 10. 1756; Amoen. Acad. **4:** 307. 1759.

Type: Undetermined.
Syn.: *Solanum latifolium* Poir., *in* Lam, Encycl. Meth. Bot. **4:** 303. 1797. (Type: A living plant, no specimens seen.)
Solanum fuscatum sensu Duss, non L.

Shrub to 2.5 m tall, leaves and young stems stellate-tomentose, stems with short, straight, and recurved prickles, leaves with long straight compressed prickles. Petioles 10-18 mm long, blades ovate in outline, 5-12 × 3-8 cm, base truncate to acute, apex acute, irregularly 4- or 5-lobed. Inflorescence extra-axillary, cymes short, few-flowered, pedicels 10-15 mm long; calyx 5-lobed, lobes lanceolate, 4-6 mm long, stellate-tomentose, sometimes with straight prickles, enlarging in fruit; corolla 2-2.5 cm in diameter, shallowly 5-lobed, lobes pointed, pubescent on back, violet; anthers linear-oblong, 7 mm long. Berry to 2.5 cm in diameter, yellow.

GENERAL DISTRIBUTION: African in origin. An early introduction and not collected recently.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua, Barbados!.

Solanum americanum Miller, Gard. Dict. ed. 8. 1768.

Type: Cultivated plant, Chelsea Physics Garden, *Miller s.n.* (BM).
Syn.: *Solanum nodiflorum* Jacq., Coll. **1:** 100. 1788. (Type: Cultivated plant in Vienna from Mauritius, *Jacq. s.n.* (BM).)
Solanum caribaeum Dunal *in* DC. Prodr. **13**(1): 48. 1852. (Type: Herb. DC, no collector cited.
Solanum nigrum authors, non L. 1753.
Solanum nigrum L. var. *nodiflorum* (Jacq.) A. Gray, Syn. Fl. **2:** 228. 1878.
Solanum nigrum L. var. *americanum* (Miller) Schulz *in* Urb. Symb. Antill. **6:** 160. 1909.
Solanum americanum L. var. *nodiflorum* (Jacq.) Edmonds *in* Stearn, J. Arnold Arb. **52:** 634. 1971.

Glabrate or pubescent herb, to 0.6 m tall, stems often angled. Leaves with petioles 5-15 mm long, blades ovate, 5-15 × 2-8 cm, base cuneate, apex acute or short acuminate, margin entire or shallowly toothed. Racemes umbelliform, lateral, peduncles to 2 cm long, pedicels erect, 7-10 mm long; calyx 5-lobed, lobes 1 mm long; corolla 5-9 mm in diameter, lobes 5, deltoid, 2 mm long, white; anthers 1-2 mm. Sepals reflexed in fruit, berries globose, 5-7 mm in diameter, glossy, black; seeds 1-1.5 mm wide.

GENERAL DISTRIBUTION: Nearly cosmopolitan in tropical areas as a weed.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Ink balls, agouman, nightshade.

NOTE: For further discussion see D. E. Symon, J. Adelaide Bot. Gard. **4:** 37-40. 1981.

Solanum bicolor Willd. ex Roemer & Schultes, Syst. Veg. **4:** 661. 1819; Roe, Brittonia **19:** 371. 1978.

Type: Venezuela, *Humboldt & Bonpland 127* (Herb. Willd.).
Syn.: *Solanum callicarpaefolium* Kunth & Bouche, Ind. Sem. Hort. Berol. App. 10. 1845. (Type: Not determined.)

Shrub or small tree, 1-3 m tall; young stems tomentose at tips, hairs sessile or short-stalked, soon glabrescent. Leaves with petioles 1.5-3 cm long, blades broadly elliptic, ovate to obovate, 12-15 × 4-8 cm, base long attenuate and decurrent on petioles, apex short acuminate to acute, thin, scabridulous above, densely stellate-pubescent below. Inflorescence 6-13 cm long, peduncle unbranched for 3-10 cm, pedicels 2-5 mm, buds globose, tomentose; calyx lobed, 1.2-2.6 × 1-1.9 mm, tomentose outside, glabrous within; corolla weakly exserted, 8-12 mm across, lobes glabrous inside, white; anthers 1.7-2 mm long; ovary glabrous with occasional stellate hairs. Fruits 6-8 mm in diameter, glabrous.

General distribution: Trinidad, Venezuela, Colombia.

Distribution in Lesser Antilles: St. Vincent (*Eggers 6968, H. H. & G. W. Smith 294, 294a*).

Note: Velez says also on St. Martin and St. Kitts. Not verifiable.

Solanum capsicoides All., Mélanges philos.-mat. Soc. Roy. Turin 1773. 12. 1773.

Type: Cultivated plant at Turin, no specimens cited.
Syn.: *Solanum ciliatum* Lam., Tabl. Encycl. **2:** 21. 1794. (Type: P-Lam. IDC 6207. 467: II. 4.)
Solanum aculeatissimum sensu Schulz, *in* Urban, Symb. Antill. **6:** 206. 1909, non Jacq.

Perennial much-branched herb, to 0.5 m high, stems pilose becoming glabrate, armed with straight yellow prickles of various sizes. Leaves with petioles 3-8 mm long, blades broadly ovate in outline, 7-15 × 5-13 cm, base obtuse to cordate, apex acute, margins pinnately 3- or 4-lobed, ciliate, thin. Cymes few-flowered, lateral, pedicels spiny and glandular-hispid; calyx lobes narrow deltoid, 1-2 mm long, often with terminal spines, also armed with stout prickles; corolla 12-20 mm broad, lobes narrow, 7-8 mm long, white; anthers 5-6 mm long, tapering at apex. Berry globose, 1-2 cm in diameter, scarlet, glabrous.

General distribution: Native to South America but widespread in tropics as a weed.

Distribution in Lesser Antilles: St. Martin, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

Common names: Cockroach berry, poison diable.

Solanum hazenii Britton, Bull. Torrey Bot. Club **48:** 338. 1922; Roe, Brittonia **19:** 359. 1967.

Type: Trinidad, *Britton & Hazen 156* (holotype, NY).
Syn.: *Solanum laurifolium* Sieber ex Dunal *in* DC. Prodr. **12**(1): 115. 1852, illegit., published in synonymy.

Shrubs or small trees to 6 m tall, branches angled and grooved, granular whitish- to yellowish-tomentose, echinate hairs sessile or stalked. Leaves with petioles 2.6-6 cm long, blades ovate or ovate-elliptic to obovate, 10-25 × 3-14 cm, base rounded to short- or long-acuminate and decurrent on petiole, apex acute to acuminate, margins entire to slightly sinuate, asperulous to finely velutinous above, whitish-tomentose below, hairs echnoid, sessile. Inflorescence 7-19 cm long, peduncles unbranched 4-15 cm, pedicels 3-5 mm long, buds orbicular with distinct swollen bases, 4-5 mm long; calyx lobed 3/4 way to base, lobes 2.2-3.9 × 1.3-2 mm, tomentose inside; corolla 8-14 mm long, lobes with occasional hairs inside, white; anthers 2-3 mm long; ovary glabrous or sparsely stellate. Fruit 8-11 mm in diameter, glabrescent, yellow.

GENERAL DISTRIBUTION: Mexico, Central America, Trinidad, Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Grenada (*Broadway s.n.*, Dec. 1904, NY).

Solanum jamaicense Miller, Gard. Dict. ed. 8. 1768.

Type: *Houstoun*, Sloane herb. 107. (BM).
Syn.: *Solanum heterotrichum* Dunal, Hist. Sol. 192, *t. 20.* 1813. (Type: "Forsyth" but probably an Anderson collection.)

Shrub 1-3 m high, porrect-stellate-tomentose and with recurved prickles, branches flexuous and stout. Leaves subsessile, blades broadly ovate or suborbicular, 7-25 × 7-12 cm, base narrowed and decurrent, apex acute or obtuse, thin, angularly lobed or entire, densely stellate pubescent. Inflorescence lateral, sessile or nearly so, few-flowered; pedicels 4-12 mm long, calyx 4 mm long, lobes linear, recurved; corolla 10-15 mm in diameter, lobes lanceolate-acuminate, white, anthers oblong 5 mm long. Berry globose, 5 mm in diameter, red, shiny.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, St. Lucia!, Grenada!.

Solanum lancifolium Jacq., Icon. Pl. Rar. **2:** 2, *t. 3129.* 1788; Collect. **2:** 286. 1789 ("lanceaefolium").

Lectotype: "America meridionali" *Jacquin s.n.* (W; Isolectotype, BM).
Syn.: *Solanum sarmentosum* Lam., Illust. **2:** 24. 1793, nom. illegit.
Solanum flexuosum Vahl, Eclog. **1:** 22. 1796. (Type: Cayenne, von Rohr.)
Solanum volubile Sw., Fl. Ind. Occ. **1:** 458. 1797. (Type: Hispaniola, no collector cited.)
Solanum ambiguum Dunal, Syn. Sol. 32. 1816. (Type: Not determined.)

Solanum calvefactum Dunal, *in* DC., Prodr. **13**(1): 226. 1852. (Type: Martinique, *Sieber 66*.)
Solanum lanceifolium var. *littorale* O.E. Schulz *in* Urb., Symb. Antill. **6**: 247. 1909. (Syntypes: Bequia, Grenada.)

Woody vine, to 10 m, branches scrambling, stems densely stellate, spines abundant, recurved, 1-2 mm long. Leaves with petioles 15-20 mm long, stellate pubescent, aculeate; blades ovate, ovate-lanceolate, suborbicular, to oblong-elliptic, 5-15 × 3.5-7 cm, base rounded often asymmetric, apex acuminate, margin entire to sinuate-lobed, stellate pubescent and sparsely aculeate above, stellate and aculeate on midrib below. Inflorescence peduncle 3-5 cm long, branches scorpioid 15-20 flowered, pedicels 10-18 mm long, stellate; calyx infundibuliform, 3-3.5 mm long, lobes unequal, ovate-lanceolate, 1-1.5 mm long, densely hirsute; corolla lobes lanceolate, 9-12 mm long, white; anthers 5-6.5 mm long. Berry globose, 6-9 mm in diameter, orange turning red.

General distribution: Greater Antilles, Mexico, Central America, South America.

Distribution in Lesser Antilles: St. Martin, Saba!, St. Eustatius, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

Note: The flowers are reported to be heterostylic but this is not evident in the material available.

Solanum mammosum L., Sp. Pl. **1**: 187. 1753.

Type: Virginia, Barbados LINN 248.32.
Syn.: *Solanum globiferum* Dunal, *in* DC. Prodr. **13**(1): 251. 1852. (Type: A living plant at Montpellier grown from seeds from Martinique.)

Annual to shrubby perennial, to 1.5 m tall, stems flexuous, white and brown simple pubescent with a few porrect-stellate hair clusters, with spines 11-14 mm long, flattened, straight or curved. Leaves with petioles 20-45 mm long, blades orbicular in outline, 6-14 × 7-14 cm, base slightly cordate, apex acute, margins sharply angulur or dentate, white pilose on both surfaces, acicular spines on midrib and veins below. Inflorescence congested umbelliform, 1- or 2- to 6-flowered, pedicels 6-10 mm long, villose; calyx campanulate, 5 mm in diameter, lobes linear acuminate 5 mm long, villose; corolla 18-24 mm long, lobes lanceolate-oblong, acuminate, purple; anthers 9-12 mm long. Berry 32-60 mm long, 30-45 mm in diameter, mammose, the basal protuberances 3 or 5, orange, shiny.

General distribution: Greater Antilles, Central America, South America, introduced elsewhere in tropical areas.

Distribution in Lesser Antilles: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Barbados!.

Common names: Lady nipples, pomme zombi.

NOTE: Anderson stated in his unpublished Hortus that only the fruit form with a single, apical protuberance was known in St. Vincent until he introduced from the Guianas the form with 3 or 5 basal protuberances. Although it is stated by some local men that woman use this fruit to aid lactation the report is probably not accurate since this is also known to be a very toxic plant.

Solanum nudum Humb. & Bonpl. ex Dunal, Sol. Syn. 20. 1816.

Type: Mexico, *Bonpland s.n.* (P).
Syn.: *Solanum antillarum* O.E. Schulz, *in* Urb. Symb. Antill. **6:** 164. 1909. (Syntypes: Cuba and Grenada.)

Shrub to 3 m; stems flexuose, branches horizontal, foliage dense, glabrous but sometimes pilose at nodes. Leaves with petioles 5-10 mm long, blades narrowly elliptic to ovate or oblong-lanceolate, 7-17 × 2.5-6 cm, base unequally decurrent on petiole, apex acute, Inflorescence opposite the leaves, congested or umbelliform, 8- to 14-flowered, peduncle 4-10 mm long, pedicels 6-9 mm long; calyx infundibuliform, 1-1.5 mm long, glabrous, 5-toothed; corolla 4-6 mm long, lobes lanceolate-oblong, acute, white to pale blue; anthers 2-2.5 mm long, oblong. Berry 6 mm in diameter, green to dark purple or black.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, Mexico, Central America, Venezuela.

DISTRIBUTION IN LESSER ANTILLES: St. Vincent!, Grenada!.

Solanum racemosum Jacq., Enum. Syst. Pl. 15. 1760., Select. Stirp. Hist. Amer. 50, *t. 36*. 1763. FIGURE 122.

Type: Martinique, ibid *t. 36*, no specimens located.
Syn.: *Solanum igneum* L., Sp. Pl. ed. 2, **1:** 270. 1762. (Type: Pluk. Phytogr. 350, *t. 225, f. 5.*)
Solanum bahamense sensu Griseb. in part, non L.
Solanum racemosum Jacq. var. *igneum* (L.) O. E. Schulz ex Bold. Fl. Dutch W. Indies **1:** 178. 1909.

Shrub to 2 m, stems finely pubescent becoming glabrate, armed with straight acicular spines or unarmed. Leaves with petioles 5-15 mm long, blades lanceolate or oblong-lanceolate, 5-17 × 2-5 cm, base acute, apex acute or acuminate, margin entire to sinuate, spines few to many on upper midrib and veins, fewer on lower midrib, appressed stellate-pubescent. Racemes long-peduncled, pedicels 8-15 mm long or longer in fruit; calyx 5-toothed, 2 mm long, teeth triangular, 1 mm long, stellate-pubescent outside; corolla segments narrow, 1 cm long, stellate-pubescent outside on ribs; anthers 6-8 mm long, pubescent adaxially. Berry globose, 8 mm in diameter, red.

GENERAL DISTRIBUTION: St. Croix, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Nevis!, Montserrat!,

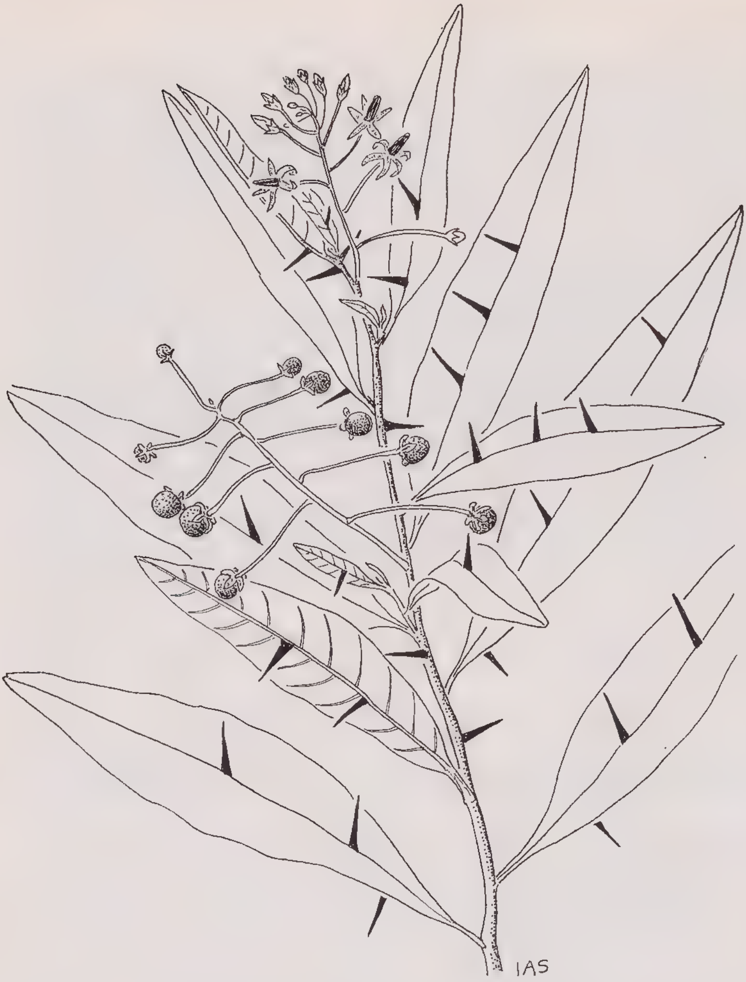


FIGURE 122. *Solanum racemosum*: × 0.6.

Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Canker berry, gut apple, conka berry, picamer feuille.

NOTE: Populations of very spiny or prickly plants usually occur in coastal locations while a short distance inland all plants are without spines or prickles on stems or leaves. Intermediates are found varying in amount, size and location of prickles. It seems preferable to refer all these to a single species.

Solanum rugosum Dunal, *in* DC., Prodr. **13**(1): 108. 1852; Roe, Brittonia **19:** 369. 1967.

Lectotype: Brazil, *Blanchet s.n.* (P), designated by Roe.
Syn.: *Solanum asperum* sensu Duss & Griseb., non Richard.

Shrubs or small trees to 9 m tall; branches scabrous, with stellate hair clusters or glabrate. Leaves with petioles 1-4 mm long, blades narrowly obovate to elliptic, 15-25 × 4-10 cm, base long-attenuate and decurrent on petiole, apex long-acuminate, margins entire, scabrous above, moderately pubescent below. Inflorescence terminal, peduncles unbranched for 5-15 cm, pedicels 2-9 mm long; calyx lobed 1/2 way, lobes 1.1-2.8 mm long, to 5 mm long in fruit, densely pubescent outside and inside; corolla 14-16 mm in diameter, white, lobes stellate on veins; anthers oblong, 2.2-3.2 mm long. Fruit globose, 9-11 mm in diameter, yellow, glabrescent or sparsely stellate pubescent.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!.

Solanum seaforthianum Andr., Bot. Repos. **8:** *t. 504*. 1808.

Type: Grown in Britain from material sent by Lord Seaforth from Barbados. Anderson's unpublished Hortus indicated he obtained this material from the Guianas and sent some to Seaforth. Symon (J. Adelaide Bot. Gard. **4:** 67. 1981) stated that no validating herbarium material was known and proposed Andrews' Bot. Repos. *t. 504* as an iconotype.

Vine to 6 m long, glabrous or sparingly pubescent, spineless. Leaves on petioles 2-4 cm long, most blades pinnately divided but some entire, broadly elliptic in outline, 5-10 × 3-8 cm, base rounded, apex acute or acuminate, lobes ovate to elliptic. Inflorescence lateral or subterminal, few to many flowered drooping panicle, pedicels 4-6 mm long; calyx flaring, 1 mm long, minutely toothed, glabrous; corolla campanulate to rotate, lobes elliptic-oblong, 8-12 mm long but expanding in age to 2.3 cm in diameter, ciliolate with cluster of minute hairs at apex, blue, purple or white, anthers oblong, 2 mm long. Berry globose, 6-10 mm in diameter, red.

GENERAL DISTRIBUTION: Native to South America but widely cultivated and naturalized in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Saba!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

COMMON NAMES: St. Vincent lilac, glycine.

Solanum torvum Sw., Prodr. 47. 1788.

Type: India occidentalis, *Swartz s.n.* (S).

Syn.: *Solanum ficifolium* Ortega, Nov. Pl. Hort. Matrit. **6:** 116. 1800. (Type: Living plant grown in Hort. Madrid from seeds obtained from Cuba. No specimens known.)

Solanum daturifolium Dunal, *in* DC., Prodr. **13**(1): 261. 1852. (Type: Martinique, *Sieber 67*, PA, M.)

Solanum torvum var. daturifolium (Dunal) Schulz, *in* Urb., Symb. Antill. **6:** 236. 1909.

Shrub to 3 m tall, unarmed or with scattered short and straight or slightly recurved prickles on petioles and midribs, all parts woolly-pubescent. Leaves with petioles 1-6 cm long, blades ovate, 7-23 × 5-18 cm, base subcordate, truncate or rarely acute, apex acute or obtuse, margins subentire to sinuate-angled or slightly lobed, upper surface with stiff hairs, lower surface velvety. Inflorescence extra-axillary, cymes corymbiform, peduncles 1-2 cm long; with axes scorpioid, becoming racemose, pedicels glandular, 8-18 mm long; calyx deeply 5-lobed, lobes 4 mm long, apiculate, pubescent; corolla with 5 ovate-lanceolate segments, 1 cm long, white, densely pubescent outside on ribs, the plicae glabrous, anthers linear-oblong, 7 mm long. Berry globose, 10-15 mm in diameter, green.

GENERAL DISTRIBUTION: Native of tropical America now widely naturalized in all tropical areas.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Turkey berry, boo, quashy, wild egg plant, bâtard balengène, bérangène dia.

NOTE: Heine's concern that the name *S. torvum* Sw. was illegitimate (Fl. Nouv. Caled. **7:** 168. 1976) is now clarified in ICBN, ed. Berol., Art. 63.2 Ex. 10.

Solanum triste Jacq., Enum. Pl. Carib. 15. 1760, Select, Stirp. Hist. Amer. 50, *t. 40, f. 2.* 1763.

Type: ibid. *t. 40, f. 2.* No specimen located.

Shrub to 5 m tall; stems puberulous to glabrate. Leaves with petioles 10-25 mm long, blades oblong-elliptic, 10-25 × 4.5-11 cm, base unequally acute, apex short acuminate, margin entire to sinuate, midrib sparsely pubescent, nerves barbellate in axils below. Inflorescence opposite the leaves, peduncle 1 cm long, branches scorpioid-racemiform, 15- to 25-flowered, pedicels 10-12 mm long; calyx infundibuliform 3 mm long, lobes rounded, minutely toothed; corolla 8.5 mm long, lobes oblong, 5-6 mm long, obtuse, ciliate-margined, white; anthers oblong, 4 mm long. Berry globose, 9 mm in diameter, dark yellow.

GENERAL DISTRIBUTION: Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Martinique, perhaps cultivated, known from several old collections. Collected recently on Dominica.

Solanum urens Dunal, *in* DC., Prodr. **13**(1): 311. 1852.

Type: St. Vincent. See Notes.

Syn.: *Solanum lobulatum* Schulz, *in* Urb. Symb. Antill. **6**: 247. 1909. (Type: St. Vincent, *H. H. & G. W. Smith 1575.*)

Shrub to 2 m tall, stems densely tomentose with stalked-stellate hairs, and acicular spines of varying lengths. Leaves with petioles 8-10 mm long, blades oblong, 14-17 × 7-9 cm, base round to subacute, apex short-acuminate, margin sinuate-repand, stellate-scabrous above, soft pubescent below, sparsely acicular-spiny on midrib and veins. Inflorescence corymbiform and subscorpioid, bifid, peduncle 2 cm long; calyx 5-parted, lobes oblong-subulate or long-acuminate, 7-9 mm long; corolla 3 cm in diameter, hirsute-stellate outside on ridges, plicae glabrous, violet; anthers linear, 7-8 mm long. Berry globose, 1.5 cm in diameter, yellow.

GENERAL DISTRIBUTION: Endemic to St. Vincent.

NOTES: Dunal cited first ''Bonhomme de S. Vincent'' and later an Alex. Anderson specimen in the Lambert Herbarium (G) as questionably from St. Vincent. The former reference has subsequently been misinterpreted as the name of the collector. Two peaks in the central mountain range on St. Vincent are today called Petit Bonhomme and Grand Bonhomme. The type may well be a collection made in 1783 on Anderson's first ascent of the Soufrière mountain area of St. Vincent two years before he became superintendent of the St. Vincent Botanic Garden. In his unpublished Hortus Anderson used the name ''Solanum urens'' for plants he collected in the high mountains of St. Vincent.

Schulz based his description of *S. lobulatum* on a sterile collection by *H. H. & G. W. Smith 1575* from Morne Garu, a name which is applied either to the Soufrière volcano or the range containing it. Schulz also assigned *S. urens*, with question, to the synonymy of *S. scabrum* (*in* Urban, Symb. Antill. **6**: 241. 1909) attributing the species to Trinidad and Tobago. C. V. Morton collected an additional sterile specimen from Richmond Peak in the Morne Garu range and concluded that *S. urens* was not the same as *S. scabrum*. In 1971 I was able to relocate a population on Richmond Peak and collected flowering material and a specimen with one fruit (*Howard, Cooley & Weaver 17711*, A). Seedling plants in the area matched those collected by Morton. *Solanum scabrum* Vahl is now generally recognized as a species of Trinidad and Tobago, and the reference to it on St. Vincent by Baker and Simmonds (Fl. Trin. Tob. **2**(4): 260. 1953) is in error.

SCROPHULARIACEAE A. L. Juss.

SCROPHULARIACEAE A. L. Juss., Gen. Pl. 117. 1789.

Herbs or shrubs, often root parasites that turn black on drying. Leaves opposite, verticillate or rarely alternate, exstipulate, simple, commonly dentate or incised. Inflorescences in spikes or racemes or solitary in axils of leaves, pedicels usually bracteate; flowers perfect, usually zygomorphic; calyx mostly with 5 lobes; corolla gamopetalous, rotate to salverform, 4- or 5-lobed, commonly bilabiate; stamens 4, didynamous, or 2, inserted on the tube, staminodes often present, filaments free, anther thecae parallel or divergent; disk present or absent; ovary superior, carpels 2, ovules numerous, style simple or divided. Fruit a capsule, mostly septicidal; seeds numerous, angled or winged or roughened, usually small.

TYPE: *Scrophularia* L.

A family of 220 genera and perhaps 4500 species of cosmopolitan distribution. The generic treatment that follows is conservative following recent authors and not Pennell (Proc. Acad. Nat. Sci. Phil. Monogr. 1. 1935) or Britton (Bot. Porto Rico **6:** 179-190. 1925). The genus *Schlegelia* Miq. is retained in the Bignoniaceae in spite of the work of J. E. Armstrong (Amer. J. Bot. **72:** 755-766. 1985) for the practical reason that it is more suggestive of that family than of the Scrophulariaceae.

KEY TO THE GENERA

1. Erect plants.
    2. Flowers red; cultivated........... *Russelia equisetiformis* Cham. & Schl.
    2. Flowers blue, purple, yellow or white.
        3. Leaves alternate; sepals linear; corolla campanulate, white; stamens 5 .... *Capraria*
        3. Leaves opposite or ternate.
            4. Leaves ternate; not turning black on drying.
                5. Corolla subrotate, white; anthers exserted; leaves punctate *Scoparia*
                5. Corolla tubular, blue to purple; all parts glandular pubescent; leaves not punctate........................ *Stemodia durantifolia*
            4. Leaves opposite; leaves turning black on drying.
                6. Leaves toothed, at least above the middle; corolla yellow or rose-purple.
                    7. Leaves coarsely toothed, broadest below the middle, scabrous; corolla yellow.................................. *Alectra*
                    7. Leaves sparsely toothed, lanceolate, decurrent at the base; sparsely hirsute with glandular hairs; corolla blue or purple.......... *Angelonia*
                6. Leaves entire, broadest near the middle; corolla salverform, blue, purple or whitish................................ *Buchnera*
1. Plants creeping, mat-forming or trailing, usually of wet areas.

8. Sepals very unequal.
  9. Flowers lilac-purple or whitish; bracteoles 2, at top of pedicel; leaves oblanceolate .... *Bacopa*
  9. Flowers yellow; bracteoles 2, at base of pedicel; leaves elliptic .... *Mecardonia*
8. Sepals subequal.
  10. Stamens 2; leaves sessile, ovate, 4 mm dia.; capsule subglobose .... *Micranthemum*
  10. Stamens 4 or 2 + 2 staminodes; capsule ovoid-ellipsoid.
    11. Branches 4-angled; anther thecae sessile; plants glabrous or at most sparsely hirsute; capsule longer than calyx .... *Lindernia*
    11. Branches terete; anther thecae stipitate; all parts glandular-pubescent .... *Stemodia*

Cultivated Taxa

Anisantherina hispidula (Mart.) Pennell, as *Gerardia hispidula* Mart. Represented by a *Bena s.n.* collection (P) without data, probably from Guadeloupe.
Kickxia elatina (L.) Dumort. Reported from Guadeloupe, *Stehlé 1898, 2929.*
Lophospermum erubescens D. Don *in* Sweet as *Maurandya antirrhiniflora* Humb. & Bonpl. Reported from Saba.
Russelia coccinea (L.) Wettst. Once cultivated on Martinique and St. Lucia.
Russelia equisetiformis Cham. & Schlecht. Currently cultivated on several islands but not known to escape.
Torenia asiatica L. *Duss 4199*, *Stehlé 4633* reported from Guadeloupe and Martinique.
Torenia fournieri Linden. Collected by Hodge on Dominica.
Verbascum thapsus L. Reported from Guadeloupe.
Veronica maritima L. *Duss 413* from Martinique.

ALECTRA Thunb.

Alectra Thunberg, Nova Gen. Pl. 81. 1784.

Herbs, probable root parasite turning black on drying, scabrous-pubescent. Leaves opposite, reduced upward on stem, dentate or laciniate. Inflorescence spicate with flowers in axils of upper leaves; peduncles with bracteoles at apex; calyx campanulate, 5-lobed; corolla subcampanulate, limb obliquely 5-lobed, marcescent; stamens 4, didynamous, anthers barbate dorsally, mucronulate or apiculate at apex; style elongate, inflexed. Capsule globose, loculicidally dehiscent; seeds clavate.

Type: *Alectra capensis* Thunb.

A genus of 40 species of Africa and Asia. For further information see Melchior, Notizbl. Bot. Gart. Berlin **15:** 423-447. 1941.

Alectra fluminensis (Vellozo) Stearn, J. Arnold Arbor. **52:** 635. 1971.
FIGURE 123.

Basionym: *Scrophularia fluminensis* Vellozo, Fl. Flumin. 263. 1825, Fl. Flum. Ic. **6:** *t. 87.* 1831.

Type: ibid. *t. 87.* No specimens located.

Syn.: *Pedicularis melampyroides* L. C. Richard, Actes Soc. Hist. Nat. Paris **1:** 111. 1792, non *Alectra melampyroides* Bentham 1846.

Alectra brasiliensis Bentham, *in* DC., Prodr. **10:** 339. 1846, nom. illegit.

Melasma melampyroides (Rich.) Pennell ex Britton & Wilson, Bot. Porto Rico **6:** 188. 1925.

Glossostylis aspera Cham. & Schlechtr., Linnaea **3:** 22. 1828. (Type: Brazil, *Beyrich s.n.*)

Alectra aspera (Cham. & Schlecht.) L. Wms., Fieldiana Bot. **34:** 118. 1972.

Annual herb, strict or branched above, 30-75 cm tall, scabrous-pubescent, with white callose-based hairs. Leaves sessile, narrowly triangular-lanceolate, 2-5 × 1-2.5 cm, broadest at base, base truncate or subcordate, apex acuminate, margin coarsely dentate. Flowers solitary and subsessile in leaf axils forming terminal leafy or bracteate spikes; calyx campanulate, 1 cm wide, hispid-scabrous; corolla campanulate, swollen, 1 cm long, yellow, persistent in fruit. Capsule globose, 7 mm in diameter; seeds numerous, clavate, 1-1.2 mm long.

GENERAL DISTRIBUTION: Hispaniola, Jamaica, Puerto Rico, Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Herbe fragile, queule du loup.

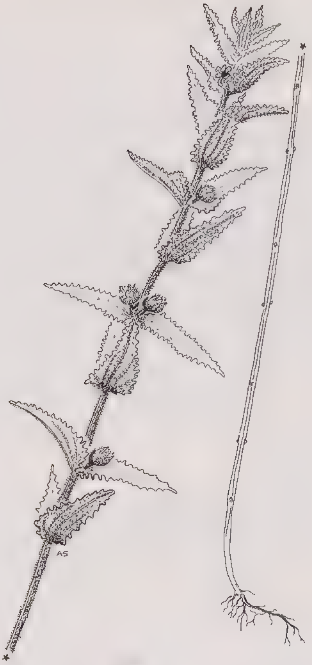
ANGELONIA Humb. & Bonpl.

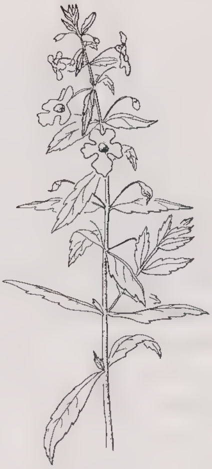
Angelonia Humb. & Bonpl. Pl. Aequin. **2:** 92. 1812.

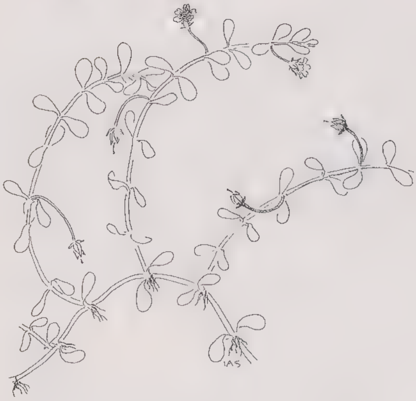
Herbs, turning black on drying. Leaves opposite or upper alternate. Inflorescence terminal, racemes, peduncles ebracteate; calyx 5-parted, lobes narrow; corolla tubular-campanulate and ampliate, lobes irregular 5, anterior lobes with protruding appendages at base; stamens 4, didynamous; filaments short, anther thecae divaricate. Capsule globose or ellipsoid, 2-valved; seeds obovoid or clavate, foveolate.

TYPE: *Angelonia salicariifolia* Humb. & Bonpl.

A genus of 25 species of tropical America.







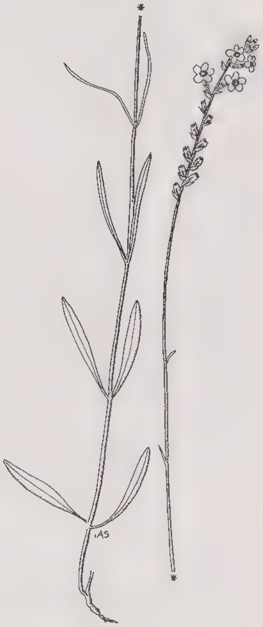


FIGURE 123 (upper left). *Alectra fluminensis*: × 0.33. FIGURE 124 (upper right). *Angelonia angustifolia*: × 0.33. FIGURE 125 (lower left). *Bacopa monnieri*: × 0.33. FIGURE 126 (lower right). *Buchnera floridana*: × 0.33.

Angelonia angustifolia Bentham, *in* DC., Prodr. **10:** 254. 1846.
FIGURE 124.

Type: Mexico, syntypes cited.

Herbs, to 70 cm, simple or branched, sparsely hirsute with gland-tipped hairs. Leaves narrowly lanceolate, 5-10 × 0.4-0.8 cm, base narrowed, apex acuminate, margin slightly serrate. Inflorescence leafy-bracted racemes, pedicels 8-14 mm long, upcurved but strongly recurved in fruit; calyx lobes ovate-oblong, > 4 mm, apiculate; corolla spreading, 1.5-2 cm in diameter, lobes broadly oblong, > 6 mm in diameter, dark lilac with white throat; anther thecae horizontal. Capsule globose, 5-6 mm in diameter; seeds clavate, 1 mm, angular, large-foveolate, brown.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, Colombia.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Guadeloupe!, Martinique!, Dominica!, Grenada!.

COMMON NAMES: Mauve, fleur à nennaine.

NOTES: Most records may be of plants under cultivation. A white-flowered form of *Angelonia gardneri* Hooker is cultivated on Grenada and may become naturalized. This differs in its sessile, shorter, and more densely toothed leaves.

BACOPA Aublet

Bacopa Aublet, Hist. Pl. Guiane 128. 1775, nom. cons.

Herbs, stems mostly prostrate. Leaves opposite or verticillate, sessile or petiolate, often fleshy, usually punctate. Flowers axillary; pedicellate, 2-bracted at apex or without bracts; calyx 5-parted, sepals unequal, the outer larger, the inner narrow; corolla zygomorphic, tube cylindric, or campanulate, slightly bilabiate, lobes spreading, the upper emarginate, the lower 3-lobed, purple or white; stamens 4, didynamous, anther thecae approximate. Capsule globose, septicidally dehiscent; seeds small, numerous.

TYPE: *Bacopa aquatica* Aublet.

A genus of 40 species of tropical areas, mostly American.

KEY TO THE SPECIES

Plants trailing; leaves spatulate, obovate, base narrowed, glandular, entire; pedicels 1-1.5 cm long; exterior sepals oval to obovoid; capsule not glandular-punctate; seeds dark brown . . . . *B. monnieri*

Plants erect; leaves linear-oblanceolate, serrulate; pedicels 2-3 mm long; exterior sepals obovoid; capsule glandular punctate; seeds black . . . . *B. sessiliflora*

Bacopa monnieri (L.) Pennell, Proc. Acad. Nat. Sci. Phil. **98:** 94. 1946; Philcox, Kew Bull. **33:** 679, 680. 1979. FIGURE 125.

Basionym: *Lysimachia monnieri* L., Cent. Pl. **2:** 9. 1756.
Type: "Amer. meridionali," Hallman.
Syn.: *Gratiola monnieria* L., Amoen. Acad. **4:** 306. 1759, comb. nov., illegit.
Herpestis monnieria (L.) Kunth, H.B.K. Nov. Gen. Sp. **2:** 366. 1818.
Bramia monniera (L.) Drake, Fl. Polynes. Françoise 142. 1893.
Bramia monnieri (L.) Pennell, Proc. Acad. Nat. Sci. Phil. **71:** 243. 1920.

Herb, stems creeping, rooting at nodes, glabrous, fleshy, 1.5-5 dm long. Leaves subsessile, blades spatulate or cuneate-obovate, 6-20 × 2-4 mm, apex rounded, entire or sparingly denticulate, punctate, pinnately veined; pedicels mainly in alternate axils, 1-1.8 cm long, 2-bracteolate at summit; upper calyx segment ovate, 6-7, long, acute; corolla campanulate, 1 cm broad, pale blue to white; stamens 4. Capsule ovoid, 5 mm long, pointed; seeds oblongoid or tapering at one end, ridged.

GENERAL DISTRIBUTION: Florida, Mexico, Central America, South America, Old World.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Marie Galante!, Martinique!, St. Lucia!, Grenada!, Barbados!.

COMMON NAME: Véronique.

Bacopa sessiliflora (Bentham) Pulle, Enum. Pl. Surin. 415. 1906.

Basionym: *Herpestis sessiliflora* Bentham *in* Hook., Comp. Bot. Mag. **ii:** 58. 1836.
Type: Cayenne, *Leprieur s.n.*

Erect herb, to 30 cm tall, glabrous. Leaves sessile, linear-oblanceolate, 1.5-4 × 0.2-0.4 cm, apex obtuse or bluntly acuminate, margin serrulate, glandular-punctate both surfaces. Inflorescence axillary, or in bracteate spikes, pedicels 0.5-2 mm long, 2-bracteolate; calyx 5-lobed, outer lobes ovate to lanceolate-ovate, 3.5 mm long, inner lanceolate, 2 mm long, punctate; corolla tubular-campanulate, 3.5 mm long, white; stamens 4, capsule narrowly ovoid, slightly compressed, 2-2.5 mm long; seeds oblong, 0.3 mm long, ridged, reticulate, black.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America.

DISTRIBUTIÓN IN LESSER ANTILLES: Guadeloupe!.

NOTES: Known only from several old collections from Guadeloupe. The combination has been attributed to Edwall in Leofgr. & Edwall, Bol. Comm. Geogr. Geol. Sao Paulo **13:** 175. 1897, where the name is used only in a key without any basionym indicated.

BUCHNERA L.

Buchnera L., Sp. Pl. **2:** 630. 1753.

Herbs, erect, commonly unbranched, hispid or scabrous, turning black on drying. Leaves opposite or the upper alternate, sessile, usually narrow. Inflorescence terminal, bracteate spike; calyx tubular, 5-toothed; corolla salverform, tube cylindric, often curved, lobes 5, spreading; stamens 4, didynamous, anther thecae parallel. Capsule loculicidally dehiscent; seeds many, small, reticulate.

LECTOTYPE: *Buchnera americana* L. vide Pennell.

A genus of 100 species of tropical areas with 16 in the New World. For further information see Philcox, Kew Bull. **18:** 275-315. 1965.

Buchnera floridana Gandoger, Bull. Soc. Bot. France **66:** 217. 1919.
FIGURE 126.

Type: United States, Florida, *Ohlinger 463.*

Erect herb, to 60 cm tall, turning black on drying, stems appressed pilose or scabrous. Leaves sessile, linear-lanceolate, 3-6 × 0.3-1.3 cm, base narrowed, apex acute, entire, hispid, 3-veined, upper leaves linear. Flowers in loose terminal spike, 3-7 cm long, bracts ovate, 3 mm long; pedicels 1 mm long; calyx 4 to 5 mm long, scabrous pubescent; corolla tube slender, 0.8-1 cm long, pilose in the throat, lobes triangular, 2-5 mm long, violet-blue or whitish. Capsule spherical or ovoid, 6 mm long; seeds numerous, clavate or hooked at apex, 0.5 mm long, brown.

GENERAL DISTRIBUTION: Southeastern United States, Cuba, Jamaica, Hispaniola, Mexico, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Dominica!.

CAPRARIA L.

Capraria L., Sp. Pl. **2:** 628. 1753.

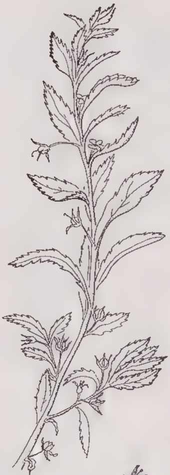
Perennial herb, erect, branched. Leaves alternate, serrate or dentate. Flowers axillary, pedicellate; calyx deeply 5-lobed, these equal; corolla campanulate, 5-lobed, white; stamens 4 or 5, anther thecae parallel. Capsule 2-grooved, septicidally dehiscent; seeds reticulate.

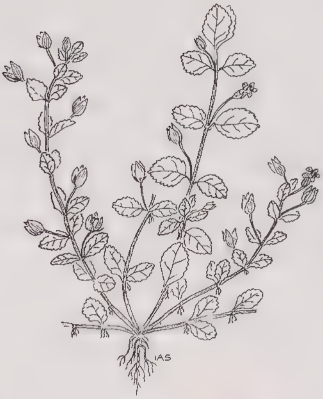
TYPE: *Capraria biflora* L.

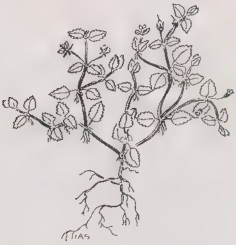
A genus of 4 species of tropical America.

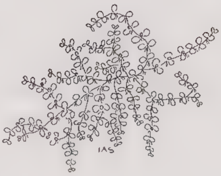
Capraria biflora L. Sp. Pl. **2:** 628. 1753. FIGURE 127.

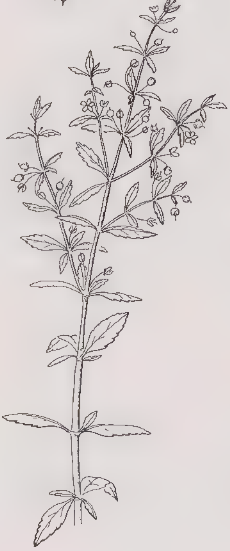
Lectotype: Herb. V. Royen (L 912348.50).
Syn.: *Capraria lanceolata* Vahl, Eclog. **2:** 47. 1798. (Type: Colombia, v. *Rohr s.n.*).











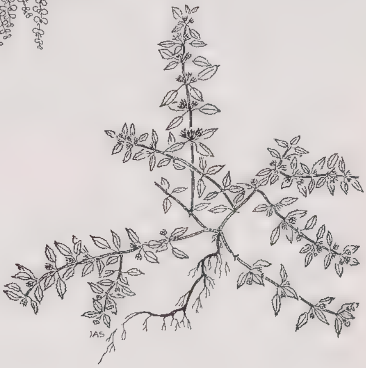


FIGURE 127 (upper left). *Capraria biflora*: × 0.33. FIGURE 128 (upper right). *Mecardonia procumbens*: × 0.33. FIGURE 129 (center right). *Lindernia crustacea*: × 0.33. FIGURE 130 (center left). *Micranthemum umbros*: × 0.33. FIGURE 131 (lower left). *Scoparia dulcis*: × 0.33. FIGURE 132 (lower right). *Stemodia verticillata*: × 0.33.

Herb, to 60 cm tall, usually much-branched, densely hirsute. Leaves subsessile, oblanceolate to obovate, 3-6 × 0.7-1.5 cm, base tapering, apex acute, sharply toothed above the middle. Flowers axillary, in clusters of 1 to 3, pedicels 4-7 mm long; calyx deeply divided, lobes linear, 4-6 mm long, ciliolate; corolla tube 0.5 cm long, hairy in throat, lobes oblanceolate, 0.5 cm long, white. Capsule ovoid, 5 mm long, grooved, glandular; seeds oblongoid, 0.3-0.5 mm, long, pitted.

General distribution: Florida, Greater Antilles, Mexico, Central America, South America.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, Barbuda!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Wild tea, thé du pays, thé des Anglais, goatweed, dité péyi.

LINDERNIA Allioni

Lindernia Allioni, Misc. Tourin. **3:** 178. 1766.

Syn.: *Vandellia* L., Mant. Pl. 89. 1767. (Type: *Vandellia diffusa* L.)
Ilysanthes Raf., Ann. Nat. 13. 1820. (Type: *Ilysanthes riparia* Raf.)

Annual herbs, glabrous or sparsely pubescent. Leaves petiolate or sessile, opposite, entire or sparsely dentate. Flowers solitary in leaf axils, or uppermost forming terminal racemes, pedicels ebracteate; calyx 5-parted, segments narrow, equal; corolla tube cylindric, ampliate above, shallowly bifid, upper lip erect, emarginate, lower lip 3-lobed; stamens 4, or 2 with 2 staminodes, included, anther thecae divaricate. Capsule ovoid or short oblong, septicidally dehiscent, seeds numerous, foveolate-rugose.

Type: *Lindernia pyxidaria* Allioni.

A genus of about 50 species of warm areas.

Key to the Species

1. Leaves sessile; calyx divided more than halfway to base, lobes 2-2.5 mm long; 2 innermost stamens fertile, outer 2 staminodes clavate . . . . *L. microcalyx*
1. Leaves short-petiolate; calyx divided to middle, lobes 2.4-4 mm long; all 4 stamens fertile.
    2. Petioles 5-15 mm long, blades elliptic to oblong, 4-5.5 × 2.5-3 cm . . . . *L. brucei*
    2. Petioles 1-7 mm long, blades ovate, 0.8-2.2 × 0.6-2 cm.
        3. Pedicel 8-14 mm long; calyx 2.4-4 mm long, lobes acute, equaling the ovoid 5 mm capsule; leaves truncate at the base . . . . *L. crustacea*
        3. Pedicel 1-3 mm long, shorter than calyx; calyx 6-10 mm long, lobes long attenuate, shorter than the fusiform 10 mm capsule; leaves broadly cuneate at the base . . . . *L. diffusa*

Lindernia brucei R. A. Howard, J. Arnold Arbor. **56:** 449-455. 1975.

Type: St. Vincent, *R. A. & B. R. Howard 18060* (holotype, A).

Rhizomatous herbs; stems to 30 cm tall. Leaves with petioles 5-15 mm long, blades elliptic to oblong, 4-5.5 × 2.5-3 cm, base rounded to cuneate, apex rounded to obtuse, margin obtusely crenate, both surfaces pilose. Inflorescence bibracteolate at middle, pedicels 1.5 cm long, pubescent; sepals lanceolate, 5 × 2.5 mm; corolla tube 1 cm long, rose-purple, upper lip bilobed, lobes rounded, 3-3.5 mm in diameter, lower lip 3-lobed, median lobe larger; stamens didynamous, upper filaments geniculate at base; disk fleshy; pistil glabrous. Capsule ellipsoidal, 2.5 mm long; seeds globose, 0.4-0.5 mm in diameter, reticulate, brown.

General distribution: Known only from the Soma of the Soufrière, St. Vincent.

Lindernia crustacea (L.) F. v. Muell., Syst. Census Austral. **1:** 97. 1882. Figure 129.

Basionym: *Capraria crustacea* L., Mant. 87. 1767.
Type: Rumph., Herb. Amb. **5:** *t. 170, f. 3.* 1750, vide Cramer, Fl. Ceylon **3:** 107. 1981.
Syn.: *Vandellia crustacea* (L.) Bentham, Scroph. Ind. 35. 1835.

Herb, branched from the base, to 20 cm, glabrous. Leaves on petioles 1-7 mm long, blades ovate, 0.8-2.0 × 0.6-1.2 cm, base rounded or truncate, apex acute, or obtuse, margin serrate. Pedicels 8-14 mm long; calyx tube campanulate 4 mm long, lobes 1 mm long, caudate-tipped; corolla bilabiate, 5-7 mm long, upper lip arched, lower spreading, blue; 2 long stamens didynamous, 2 shorter stamens free. Capsule globose, 3-3.5 mm long; seeds elliptic, 0.3-0.4 mm long, impressed punctate.

General distribution: Jamaica, Hispaniola, Puerto Rico, Central America, Trinidad, South America.

Distribution in Lesser Antilles: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Common name: Cresson bâtard.

Lindernia diffusa (L.) Wettstein *in* Engl. & Prantl, Pflanzenf. IV, **3b:** 79. 1891.

Basionym: *Vandellia diffusa* L., Mant. Pl. **1:** 89. 1767.
Type: St. Thomas, "D. D. Browne."

Herb, spreading, branched, stems to 15 cm long, square, sparsely hirsute. Leaves with petioles 2-4 mm long; blades ovate to suborbicular, 9-28 × 10-20 mm long, base rounded, obtuse, or broadly cuneate, apex round, obtuse or shortly acute, margin serrate, ciliate. Pedicels 1-3 mm long; calyx tube obpyramidal, 3-4 mm long, teeth lanceolate, 2 mm long, fringed or ciliate on midrib; corolla 5-8 mm long, upper lip purple, the rest white. Capsule narrowly oblong, 10-12 mm long, attenuate; seeds oblongoid, 0.5 mm long, pitted.

GENERAL DISTRIBUTION: Jamaica, Hispaniola, Puerto Rico, Central America, Trinidad, South America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Antigua!, Nevis!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Herbe à tisane.

NOTES: Cramer's new combination in Fl. Ceylon **3:** 405. 1981 was unnecessary.

Lindernia microcalyx Pennell & Stehlé, *in* Stehlé & Quentin, Fl. Guad. Depend. II, **1:** 217. 1938.

Type: Guadeloupe, *Stehlé 2280.*

Herb; stems creeping, rooting, glabrous. Leaves subsessile, blades ovate to ovate-orbicular, 5-8 × 4-7 mm, base rounded, apex acute, margin subentire to dentate. Pedicels 5-10 mm long, glabrous; calyx 1-2.5 mm long, deeply divided, sepals linear-lanceolate to elliptic-oblong, 2-2.5 mm long, ciliolate-glandular; corolla 8-12 mm long, bilabiate, violet-blue or whitish with blue spots; posterior 2 stamens fertile, apex of connective extended, staminodes 2, clavate. Capsule ovoid, 2.5-3.5 mm long, acuminate; seeds cylindric or oblongoid, 0.3 mm long, pitted.

GENERAL DISTRIBUTION: Ecuador, Peru, Brazil.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!.

COMMON NAMES: Cresson bâtard, petite teigne.

NOTES: Some herbarium annotations suggest this is a synonym of *Lindernia rotundifolia* (L.) Alston (basionym *Gratiola rotundifolia* L.) based on material from India. Pennell & Stehlé contrasted their new species with this. Only a few Old World specimens have been seen and these seem distinct. D.A. Qualls in 1984 annotations also accepts the present species.

MECARDONIA Ruíz & Pavón

Mecardonia Ruíz & Pavón, Fl. Peruv. et Chil. Prodr. 95. 1794.

Syn.: *Pagesia* Raf., Fl. Ludov. 48. 1917. (Type: *Pagesia leucantha* Raf.)

Herbs, stems erect or decumbent, glabrous, usually turning black on drying. Leaves opposite, sessile or short-petiolate, usually punctate, serrate or entire. Flowers solitary in axils of leaves, flowers sessile or pedunculate, 2 bracteolate at base of peduncle; calyx 5-parted, unequal, outermost larger, innermost pair narrow; corolla bilabiate, upper lip 2-lobed, lower lip 3-lobed, pubescent at orifice; stamens 4, didynamous, staminode present. Capsule septicidally dehiscent; seeds numerous, small.

TYPE: *Mecardonia ovata* Ruíz & Pavón.

A genus of 10 species.

Mecardonia procumbens (Mill.) Small, Fl. Southeastern United States 1065, 1338. 1903. FIGURE 128.

Basionym: *Erinus procumbens* Miller, Gard. Dict. ed. 8, no. 6. 1768.
Type: *Houstoun s.n.* (holotype, BM).
Syn.: *Lindernia dianthera* Sw., Prodr. 92. 1788; Fl. Ind. Occ. **2:** 1058. 1800, nom. illegit. citing Miller.
Herpestis chamaedryoides Kunth, *in* H.B.K. Nov. Gen. Sp. Pl. **2:** 369. 1818, nom. illegit. citing Swartz.
Bacopa procumbens (Mill.) Greenm., Field Mus, Bot. **2:** 261. 1907.
Herpestis procumbens (Mill.) Urban, Symb. Antill. **4:** 558. 1911, non Sprengel 1819.
Pagesia dianthera (Sw.) Pennell, Proc. Acad. Nat. Sci. Phil. Monogr. **1:** 69. 1935.
Mecardonia dianthera (Sw.) Pennell, Proc. Acad. Nat. Sci. Phil. **98:** 87. 1946.

Herb, branched, diffuse or ascending, branches to 40 cm long, glabrous, turning black on drying. Leaves sessile or very short petiolate, blades elliptic-ovate, 1-2.5 × 0.5-2 cm, base decurrent, cuneate or obtuse, apex obtuse, margin serrate above the middle. Pedicels 1.5-2.5 cm long, bibracteate at the base; calyx of 5 sepals, outer 3 ovate, 5-10 mm long, inner 2 smaller and narrower; corolla cylindric, ampliate above, tube 4 to 5 mm long, lobes oblong, 2 mm long, yellow; stamens 4, anthers short-oblong, stipitate. Capsule cylindric, 4-7 mm long; seeds oblongoid, 0.3 mm long, striate, tuberculate, brown, minute.

GENERAL DISTRIBUTION: Southern United States, Cuba, Hispaniola, Puerto Rico, Mexico, Central America, South America to Argentina.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

MICRANTHEMUM Michaux

Micranthemum Michaux, Fl. Bor. Am. **1:** 10. 1803, nom. cons.

Herb, stems prostrate, mat-forming, glabrous. Leaves opposite, sessile, blades ovate or orbicular, 3- to 5-palmately veined. Flowers axillary, subsessile, alternating at nodes; calyx 4-lobed; corolla zygomorphic, tube short, subbilabiate, white; stamens 2. Capsule globose, rupturing irregularly; seeds numerous, minute, 4-ridged and rugose.

TYPE: *Micranthemum orbiculatum* Michx., nom illegit. = *M. umbros* (Gmel.) Blake.

A genus of 4 species of tropical America.

Micranthemum umbrosum (Gmel.) Blake, Rhodora **17:** 131. 1915. FIGURE 130.

Basionym: *Globifera umbrosa* Gmel. Syst. Nat. **1:** 32. 1791 ("umbros").
Type: U.S., Carolina. A Walter specimen has not been located.

Syn.: *Anonymos umbrosa* Walter, Fl. Carol. 63. 1788, nom. invalid.
Micranthemum orbiculatum Michx., Fl. Bor. Amer. **1:** 10. 1803, nom. illegit.

Mat-forming creeping herb. Leaves sessile, ovate or orbicular, 4-6 × 4 mm, base cuneately narrowed, apex round, palmately veined, margin entire. Pedicels 1 mm long; calyx deeply 4-parted, 1 mm long; corolla zygomorphic, 4-lobed, white; stamens 2. Capsule globose, 1 to 2 mm in diameter, seed minute, 0.2 mm long, grooved, tuberculate.

General distribution: Southeastern North America, Cuba, Hispaniola, Trinidad, South America.

Distribution in Lesser Antilles: Guadeloupe!, Dominica!, Grenada.

SCOPARIA L.

Scoparia L., Sp. Pl. **1:** 116. 1753.

Herbs, erect, branched. Leaves opposite or ternate, punctate. Flowers solitary or in pairs, axillary, pedicels bractless; calyx 4- or 5-parted, segments distinct, equal; corolla subrotate, deeply 4-parted, bearded in throat; stamens 4, anther thecae parallel or divergent. Capsule septicidally dehiscent; seeds numerous, obovoid, angular.

Type: *Scoparia dulcis* L.

A genus of 20 species of tropical America.

Scoparis dulcis L., Sp. Pl. **1:** 116. 1753. Figure 131.

Type: Not determined. Pennell (1935) said the specimens in the Linnaean herbarium were not there in 1753.
Syn.: *Scoparia dulcis* L. var. *tenuifolia* Griseb., Fl. Brit. W. Indian Is. 427. 1861. (Type: Jamaica, three collections cited.)

Herb, annual, to 1 m tall, often much branched, stems ridged, glabrous. Leaves opposite or verticillate in 3 or 4, petioles short, blades lanceolate-oblong, ovate, obovate, or oblanceolate, (1-)2-3 × (0.1)0.4-1.5 cm, base narrowed or cuneate, apex acute, margins sharply serrate above the middle, glandular-punctate. Pedicels filiform, 5-7 cm long; calyx deeply 4-lobed, lobes oblong, > 1.5 mm long, acute, margins white, ciliolate; corolla rotate, 3-4 mm wide, densely white-bearded in throat, white. Capsule ovoid-globose, 2 to 3 mm long; seeds obovoid to oblongoid, tuberculate, brown.

General distribution: Nearly pantropical and pansubtropical as a weed.

Distribution in Lesser Antilles: St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Sweet broom, balier doux, balai doux, thé savane.

STEMODIA L., nom. cons.

Stemodia L., Syst. Nat. ed. 10, 1091, 1374. 1759.

Herbs or low shrubs, glandular pubescent. Leaves opposite or ternate, sessile or petiolate. Flowers axillary or in terminal bracteate spikes or racemes; pedicels 2-bracteolate or ebracteolate; calyx 5-parted. sepals nearly distinct, equal; corolla tube cylindrical, bilabiate, upper lip erect, notched, lower lip 3-lobed; stamens 4, didynamous, included, anther thecae distinct, often curved. Capsule septicidally dehiscent, attenuate; seeds minute, striate or reticulate.

TYPE: *Stemodia maritima* L.

A genus of 35 species of tropical America.

KEY TO THE SPECIES

Plants erect, to 40 cm tall; leaves clasping; pedicels bibracteolate .... *S. durantifolia*
Plants prostrate, less than 10 cm tall; leaves petiolate; pedicels not bibracteolate .... *S. verticillata*

Stemodia durantifolia (L.) Sw., Obs. Bot. 240. 1791.

Basionym: *Capraria durantifolia* L., Syst. Nat. ed. 10. 1116. 1759.
Type: Undetermined.

Herb, erect, branched, to 40 cm tall, viscid-pubescent or glandular. Leaves sessile and amplexicaulous, blades oblong, oblong-lanceolate, oblanceolate, 3-6 × 0.6-2 cm, base rounded or clasping, apex acuminate or obtuse, margin sharply serrate above the middle, upper leaves linear 1-1.5 × 0.2-0.3 mm. Flowers nearly sessile, solitary or in long leafy, bracted racemes, bractlets linear; pedicels 2-4 mm long; calyx segments 5 mm long, lanceolate, acuminate, glandular-pubescent; corolla 5-7 mm long, glandular-pubescent, violet-blue. Capsule 3.5 mm long; seeds oblongoid, 0.25 mm long, tuberculate.

GENERAL DISTRIBUTION: Greater Antilles, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Grenada!.

NOTE: The more extensive distribution given by Vélez can not be documented.

Stemodia verticillata (Miller) Hassl., Contr. Fl. Chaco 110. 1909.
FIGURE 132.

Basionym: *Erinus verticillatus* Miller, Gard. Dict. ed. 8, no. 5. 1768.
Type: Mexico, *Houstoun s.n.* (holotype, BM, ex Pennell).
Syn.: *Capraria humilis* Aiton, Hort. Kew. ed. 1. **2:** 353. 1789, non Pavón.
Stemodia parviflora W. T. Aiton, Hort. Kew. ed. 2, **4:** 52. 1812. nom. illegit. citing Miller.

Poarium veronicoides Hamilton, Prodr. 46. 1825. (Type: Hispaniola, *Hamilton s.n.* (holotype, P).

Lendneria humilis (Aiton) Minot, Bull. Soc. Bot. Genève II, **10:** 241. 1918.

Lendneria verticillata (Miller) Britton *in* Britton & Wilson, Bot. Porto Rico **6:** 184. 1925.

Poarium verticillatum (Miller) Pennell, J. Arnold Arbor. **24:** 246. 1943.

Herb, diffusely branched, stems prostrate, rarely ascending to 10 cm, viscid-pubescent. Leaves opposite or ternate, petioles 2-5 mm long, slender, blades ovate to ovate-elliptical, 7-15 × 2-4 mm, base cuneate, apex obtuse, margin crenate-serrate above the middle; pedicels 1-2 mm long; calyx segments linear-lanceolate, 3-4 mm long, acuminate; corolla 4-6 mm long, blue or purple. Capsule subglobose, 1-2.5 mm in diameter; seeds clavate, 0.25 mm long.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, elsewhere as an introduced weed.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Grenada!.

COMMON NAME: Petit véronique.

BIGNONIACEAE

BIGNONIACEAE A. L. Jussieu, Gen. Pl. 137. 1789.

Trees, shrubs or vines sometimes climbing with simple or branched tendrils, stems often with areas of glands at the nodes, with or without pseudostipules. Leaves opposite, simple, pinnate or palmately compound, the terminal leaflet of climbers sometimes replaced with a simple or branched tendril, entire or toothed. Inflorescence terminal or axillary, a raceme or panicle or reduced to a single flower; calyx synsepalous, truncate to lobed or split and spathelike; corolla tubular-infundibuliform, narrowly tubular, tubular-campanulate, campanulate or salverform, lobes, 5, usually imbricate; stamens usually 4, rarely 2 to 5, didynamous, inserted on the tube, anther thecae usually slender and elongate, sometimes arcuate, usually divergent, filaments slender, staminode present or wanting; ovary superior, 1- or 2-locular, ovules numerous, style slender, stigmas lamellate, disk annular or pulvinate, often conspicuous, rarely absent. Fruit a capsule, berry or hard-shelled pepo, dehiscence at right angles to or parallel to the septum; seeds usually flattened and winged, or wingless.

TYPE: *Bignonia* L., nom. cons.

A mostly tropical family of 83 genera and about 850 species, most abundant in South America.

KEY TO THE GENERA

1. Trees, shrubs, or climbers without tendrils; leaves simple, 3-foliolate, or palmately or pinnately compound; fruits indehiscent or dehiscing at right angles to septum.
  2. Fruit indehiscent; leaves simple; seeds not winged.
    3. Leaves opposite; lianas climbing by adventitious roots; fruit ca. 1 cm dia. .... *Schlegelia*
    3. Leaves alternate or on alternate short-shoots; trees or shrubs; fruit > 3 cm dia.
      4. Leaves clustered on short-shoots, seeds < 8 × 9 mm; calyx halves < 2.5 cm long .... *Crescentia*
      4. Leaves alternate; seeds > 8 × 10 mm; calyx halves 2.5 cm long .... *Amphitecna*
  2. Fruit a capsule; leaves simple to compound; seeds winged.
    5. Leaves simple; fertile stamens 2; capsule terete and slender, seeds hairy, the wings of separate trichomes loosely fused basally .... *Catalpa*
    5. Leaves compound, sometimes 1-foliolate; fertile stamens 4, seeds glabrous with membranaceous wings.
      6. Leaves digitately 1- to 3- to 5-foliolate, often flowering when completely leafless; capsule stellate-puberulous or densely covered with minute peltate-lepidote scales .... *Tabebuia*
      6. Leaves pinnate or bipinnate, present at anthesis; capsule glabrous or with a few scattered lepidote scales.
        7. Leaves bipinnate; leaflet small, < 1.7 cm long; flowers mauve or violet, staminodes longer than stamens, the apex glandular-pilose; capsule compressed, orbicular in outline; cultivated .... *Jacaranda*
        7. Leaves pinnate, leaflets > 1.7 cm long, flowers yellow, pink, orange or red-orange; staminodes much shorter than stamens, glabrous; capsule elongated; cultivated or native.
          8. Leaflets entire; trees; calyx spathaceous; corolla broadly campanulate, > 4.5 cm wide at mouth, scarlet-orange rimmed with gold; valves of fruit > 4 cm wide; cultivated .... *Spathodea campanulata* Beauv.
          8. Leaflets serrate; shrubs, small trees or climbers; calyx regular, 5-dentate; corolla tubular to tubular-campanulate, < 3 cm wide at mouth, yellow, orange-red or pink; fruit < 2 cm wide, native or cultivated.
            9. Erect shrub or tree; corolla bright yellow, or orange-scarlet; calyx < 7 mm long; native or cultivated .... *Tecoma*
            9. Climber; corolla pink with lavender lines; calyx 15 mm long; cultivated .... *Podranea ricolasiana* (Tanfani) Sprague
1. Lianas with tendrillate leaves; leaves 2- to 3-foliolate, always in part 2-foliolate with terminal leaflet replaced by tendril or tendril scar; fruit dehiscing parallel to septum.
  10. Stems sharply 6-angled, puberulous with stellate trichomes; calyx margin double, outer lobes spreading and inner thick and erect .. *Amphilophium*
  10. Stems terete to 4-angled, glabrous or puberulous with simple trichomes; calyx simple.

11. Corolla glabrous or lepidote outside; calyx glabrous, usually thin and membranaceous.

12. Tendrils trifid-uncinate; disk present; flowers yellow . . . . *Macfadyena*

12. Tendrils simple; disk absent; flowers magenta or white with magenta nectar lines.

13. Calyx spathaceous . . . . *Phryganocydia*

13. Calyx truncate . . . . *Cydista*

11. Corolla puberulous outside, at least on lobes; calyx puberulous, coriaceous.

14. Corolla salverform-tubular, > 10 cm long; fruit ellipsoidal, seeds thick-corky, and unwinged . . . . *Tanaecium*

14. Corolla tubular-campanulate to tubular-infundibuliform, < 8 cm long; fruit linear to narrowly oblong; seeds bialate.

15. Corolla yellow; calyx somewhat bilabiate; leaflets with cartilaginous margin; tendril simple . . . . *Adenocalymna*

15. Corolla white to magenta; calyx truncate to minutely 5-denticulate; leaflets without cartilaginous margin; tendril simple or trifid.

16. Tendrils trifid; with strong vegetative odor or the fruit valves woody (or both).

17. Corolla white, tubular-campanulate; fruit valves smooth, woody, narrowly oblong, strongly convex . . . . *Ceratophytum*

17. Corolla lavender to magenta, tubular-infundibuliform; fruit valves linear-oblong and strongly compressed or verrucose . . . . *Mansoa*

16. Tendrils simple; without vegetative odor; fruits linear, valves smooth and coriaceous . . . . *Arrabidaea*

CULTIVATED TAXA

Campsis radicans (L.) Seem. Reported by Fournet but not documented.

Distictis lactiflora (Vahl) DC. Reported by Velez and later by Fournet as cultivated and naturalized but not documented.

Jacaranda mimosifolia D. Don (Syn. *J. ovalifolia* R. Br.). Reported from Martinique.

Jacaranda obtusifolia ssp. *rhombifolia* (G.F.W. Meyer) Gentry. Reported from St. Vincent and Grenada. A synonym is *Jacaranda filicifolia* D. Don (1823). This plant was introduced to St. Vincent by Alexander Anderson from Suriname. The earliest name, *Bignonia filicifolia* Anderson, was published without description in the catalogues of the St. Vincent Botanic Garden and is therefore invalid.

Kigelia africana (Lam.) Bentham (Syn. *Kigelia pinnata* (Jacq.) DC.) — the Sausage tree. Once cultivated on St. Vincent.

Lyndia eronema DC. Known from two old collections from Martinique and probably from plants cultivated at the St. Pierre Botanic Garden.

Martinella obovata (HBK) Bur. & K. Schum. Old collections from Martinique by *Belanger* (*184*, *205*, *352*) were probably from plants at the St. Pierre Botanic Garden.

Parmentiera cereifera Seem. Cultivated on St. Vincent and Grenada.

Phryganocydia corymbosa (Vent.) Bur. ex K. Schum. Currently cultivated on Montserrat and Grenada.

Pithecoctenium crucigerum (L.) A. Gentry. Reported by Fournet as *Pithecoctenium echinatum* (Jacq.) Baillon, but not documented.

Podranea ricolasiana (Tanfani) Sprague. Also reported as *Pandorea ricolasiana* (Tanfani) Baillon. Cultivated on Anguilla, Guadeloupe, Martinique and St. Lucia.

Pyrostegia venusta (Ker.) Miers. Reported by Fournet but not documented.

Radermachera glandulosa (Bl.) Miq. Cultivated on Montserrat.

Spathodea campanulata Beauvois. African tulip tree. Cultivated on Anguilla, Guadeloupe, Dominica, St. Lucia, Barbados.

Tabebuia spp. See following treatment.

Tecoma capensis (Thunb.) Lindley as *Tecomaria capensis* (Thunb.) Spach. Cultivated on Dominica. See *Tecoma* following.

ADENOCALYMNA Mart. ex Meisn.

Adenocalymna Mart. ex Meisner, Pl. Vasc. Gen. **1:** 300, **2:** 208. 1840.

Lianas, branches terete, without fields of glands, pseudostipules small. Leaves trifoliolate, the terminal leaflet often replaced with unbranched tendril. Inflorescence a terminal raceme, with caducous glandular bracts; calyx cupular, bilabiate to more or less truncate, usually with plate-shaped glands; corolla tubular to infundibuliform, yellow; anthers glabrous, thecae straight or divaricate; ovary narrowly cylindrical, lepidote or puberulent, ovules 2-seriate in each locule, disk pulvinate. Fruit an oblong capsule, valves parallel to septum, slightly compressed, woody; seeds bialate or nearly wingless.

LECTOTYPE: *Adenocalymna comosum* (Cham.) DC.

A genus of about 40 species of tropical America.

Adenocalymna inundatum Mart. ex DC., Prodr. **9:** 201. 1845.
FIGURE 133.

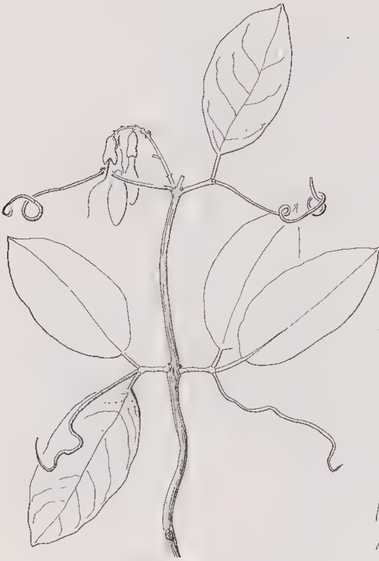
Type: Brazil, *Martius s.n.* (holotype, M).
Syn.: *Adenocalymna grenadense* Urban, Repert. Spec. Nov. Regni Veg. **14**: 306. 1916. (Type: Grenada, *Broadway 1798.*)

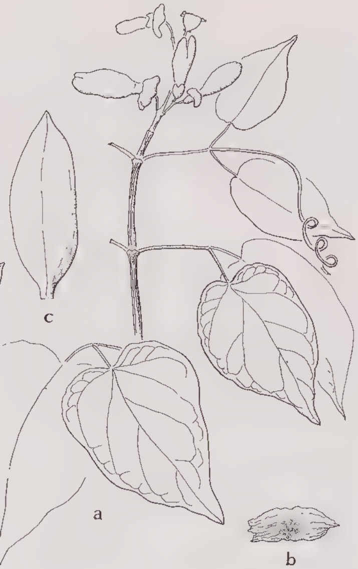
Liana, stems sometimes 4-grooved. Petioles 3.2-6.5 cm long, petiolules 1-4 cm long, leaflets 3 or terminal one replaced with simple tendril, blades ovate to elliptic-ovate, 4.5-17 × 2.2-8 cm, base rounded, to subcordate, apex acute to acuminate, margins cartilaginous. Inflorescence with caducous glandular bracts, ca. 1 × 1 cm; calyx cupular, 5-8 mm long, bilaterally split, with plate-shaped glands; corolla tube tubular-campanulate, above a narrowly cylindrical base, 2.5-6 cm long, yellow. Capsule oblong, rounded at both ends, valves woody and thickened; seeds bialate, ca. 2 × 5-7 cm, the wing membranaceous.

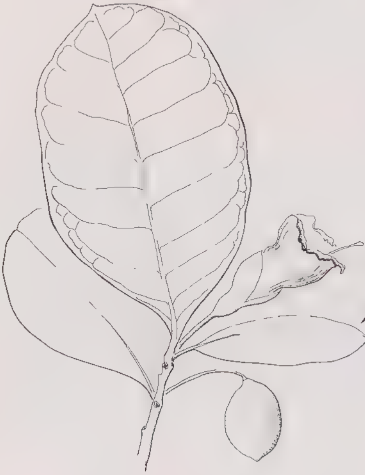
GENERAL DISTRIBUTION: Central America to Amazonian Brazil.

DISTRIBUTION IN LESSER ANTILLES: St. Vincent!, Grenada!.

NOTES: *A. grenadense* has been collected but once in flower and may have been an introduced and cultivated plant. Gentry in Flora Veracruz **24:** 18. 1982 now refers this to *A. inundatum*, while he previously followed Sand-







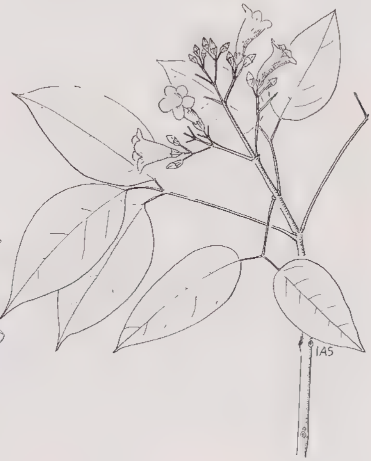


FIGURE 133 (upper left). *Adenocalymna inundatum*: × 0.3. FIGURE 134 (upper right). *Amphilophium paniculatum*: a: flowering shoot, × 0.3, b: seed, × 0.3, c: × 0.3. FIGURE 135 (lower left). *Amphitecna latifolia*: × 0.3. FIGURE 136 (lower right). *Arrabidaea chica*: × 0.3.

with (Lilloa **3:** 406. 1938) placing the species in the synonymy of *A. apurense* (HBK) Sandw. (Gentry, Ann. Missouri Bot. Gard. **60:** 787. 1973, **63:** 46-47. 1973).

AMPHILOPHIUM Kunth

Amphilophium Kunth, J. Phys. Chim. Hist. Nat. Arts **87:** 451. 1818.

Lianas, stems with 4 phloem wedges; branchlets 6-angled, gland fields wanting; pseudostipules foliaceous, usually caducous. Leaves 2- to 3-foliolate, the terminal leaflet replaced with 3-fid tendril. Inflorescence terminal, racemose-paniculate; calyx campanulate, double, with a thin, spreading outer rim, and thick, erect inner rim; corolla tubular, bilabiate, the upper lip 2-lobed, lower 3-lobed appressed together at anthesis; stamens didynamous, anthers glabrous, thecae divaricate; ovary ovate-cylindrical, disc annular-pulvinate. Capsule oblong-elliptic, valves parallel to septum, somewhat compressed, woody, smooth to tuberculate; seeds puberulous, thin, wings membranaceous.

LECTOTYPE: *Amphilophium paniculatum* (L.) HBK.

A genus of five species of Central America and the West Indies to tropical South America.

Amphilophium paniculatum (L.) Kunth *in* H.B.K. Nov. Gen. Sp. Pl. **3:** 116. 1819. FIGURE 134.

Basionym: *Bignonia paniculata* L., Sp. Pl. **2:** 623. 1753.
Type: Plum. Pl. Amer. *t. 56, f. 1.*

Coarse vine, pseudostipules foliaceous, caducous. Leaves 2- or 3-foliolate, the 3rd often replaced with a trifid tendril, petioles > 8 cm long, petiolules 0.5-4 cm long, blades ovate, 5-16 × 2.5-7.5 cm, base cordate, apex acuminate, lepidote and more or less stellate pubescent. Inflorescence terminal, paniculate; bracts linear, ca. 0.5 cm long, pedicels ca. 1 cm long; calyx urceolate, double-margined, outer 5 lobes broadly spreading, inner 2 or 3 lobes erect; corolla 2.4-3.5 cm long, bilabiate, lobes loosely appressed at maturity, purple. Capsule oblong-elliptic, flattened, 4-9 × 2.5-3.8 × 1.5-2 cm; seeds 1-2 × 2.5-3 cm, wings membranaceous, brown, hyaline at tips.

GENERAL DISTRIBUTION: Mexico, Central America, South America south to Argentina.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAME: Liane à canots.

AMPHITECNA Miers

Amphitecna Miers, Trans. Linn. Soc. ser. 1, **26:** 163. 1870.

Syn.: *Dendrosicus* Raf., Sylva Tell. 80. 1838., nom. rej. (Type: *D. saxatilis* Raf. = *A. latifolia* (Mill.) A. Gentry.)
Enallagma (Miers) Baill., Bull. Linn. Soc. Paris **85:** 679. 1887., nom. cons. (Type: *E. cucurbitina* (L.) Baill. = *A. latifolia* (Mill.) A. Gentry.)

Small to medium trees, without interpetiolar gland fields or pseudostipules. Leaves simple, alternate. Inflorescence of one or a fascicle of several flowers, borne ramiflorously or terminally; calyx large, coriaceous, usually bilabiately split to near the base; corolla tubular-campanulate, tube transversely plicate below middle, greenish white; stamens subexserted, the thecae glabrous, divergent; ovary ovoid-elliptic, more or less lepidote, incompletely 2-locular, the ovules pluriseriate; disc large, pulvinate. Fruit globose, pericarp rigid, fleshy inside; seeds flattened, not winged, embedded in pulp.

TYPE: *Amphitecna latifolia* (Mill.) A. Gentry.

A neotropical genus of 20 species, mostly in Central America.

Amphitecna latifolia (Mill.) A. Gentry, Taxon **25:** 108. 1976.
FIGURE 135.

Basionym: *Crescentia latifolia* Mill., Gard. Dict. ed. 8, 306. 1768.
Type: Plum., Pl. Amer. *pl. 109.*

Small tree to 10 m tall. Leaves simple, alternate, petiole poorly defined, 0.2-1.1 cm long, blades obovate 7-19 × 3.3-10.6 cm, base cuneate-attenuate, apex rounded to subacute, coriaceous. Inflorescence a single flower or fascicle of 2 or 3 flowers on the larger twigs; calyx bilabiately split, 2.5-3.7 cm long, glabrous; corolla 3.8-6.2 cm long, fleshy, greenish-white; stamens subexserted; ovary rounded-conical, bilocular except at extreme apex; disk 2 × 5 mm. Fruit spherical, 6-9 cm in diameter, shell thin, hard, smooth; seeds 1.3-1.6 × 1.6-1.8 cm, wingless, scattered in pulp.

GENERAL DISTRIBUTION: Circum-Caribbean from the south tip of Florida and Veracruz, Mexico to Venezuela; also on Pacific coast.

DISTRIBUTION IN LESSER ANTILLES: Marie Galante, Martinique!, Dominica, St. Vincent!.

COMMON NAME: Black calabash.

ARRABIDAEA DC.

Arrabidaea A. P. DeCandolle, Biblioth. Universelle Genève sér. 2, **17:** 126. 1838.

Lianas, stem with 4 phloem wedges, usually with petiolar glandular fields, pseudostipules small and inconspicuous. Leaves usually 3-foliolate, terminal leaflet sometimes replaced with unbranched tendril. Inflorescence a terminal, or axillary panicle; calyx cupular, truncate to minutely 5-denticulate, pubescent; corolla campanulate, pubescent outside at least on lobes, usually pale pink to purple; stamens didynamous, anthers glabrous, thecae divaricate; ovary narrowly cylindrical, usually lepidote. Capsule compressed, linear, valves parallel to septum, smooth to verrucose; seeds bialate, wings hyaline and distinct from body.

TYPE: *Arrabidaea rego* (Vellozo) A. P. DC.

A genus of 70 species of tropical America.

Arrabidaea chica (Humboldt & Bonpland) Verlot, Rev. Hort. **40:** 154. 1868. FIGURE 136.

Basionym: *Bignonia chica* Humboldt & Bonpland, Pl. Aequin. **1:** 107, *pl. 31.* 1808. Type: Venezuela, *Humboldt & Bonpland s.n.* (holotype, P).

Vine. Leaves with petioles 7 cm, leaflets 2 or 3, petiolules 1-2 cm long, blades ovate, 8-12 × 3.5-5 cm, base rounded, apex acute to acuminate, glabrous except for trichomes in axil of lateral veins below, tendril simple. Inflorescence a terminal panicle, puberulent, bracts ovate, 2 mm long, pedicel ca. 5 mm long; calyx 3-5 mm, teeth minute; corolla tubular-campanulate 1.5-3 cm long, lobes ca. 1 cm, lavender-pink. Pods linear, flattened, 12-23 × 1 × 0.3 cm, acute at both ends; seeds flattened, ca. 2 × 0.7 cm, wings hyaline.

GENERAL DISTRIBUTION: Puerto Rico, Mexico, Central Amerioca, south to Argentina.

DISTRIBUTION IN LESSER ANTILLES: Dominica!.

NOTE: Perhaps introduced, for the plant is used in South America as a red cosmetic.

CATALPA Scop.

Catalpa Scopoli, Introd. Hist. Nat. 170. 1777.

Trees. Leaves simple, petiolate, opposite or verticillate. Inflorescence terminal, paniculate; calyx deeply bilabiate; corolla broadly campanulate, bilabiate, 5-lobed, lobes undulate, the lower 3 larger; fertile stamens 2, others sterile or rudimentary; ovary oblong, the ovules multiseriate in each locule; disk annular-pulvinate. Capsule elongate, slender, nearly cylindrical, 2-locular, septum at right angles to valves; seeds many, the two acute wings formed from fused hairs, the body sometimes long silky pubescent.

TYPE: *Bignonia catalpa* L. = *Catalpa bignonioides* Walt.

A genus of 10 species, four in eastern Asia, two in eastern North America, and four in the Antilles. Introduced elsewhere.

Catalpa longissima (Jacq.) Dum. Cours., Bot. Cult. **2:** 190. 1802. FIGURE 137.

Basionym: *Bignonia longissima* Jacq., Enum. Syst. Pl. 25. 1760; Select. Stirp. Hist. Amer. 182, *t. 176, f. 78.* 1763 (seed only).
Type: LINN 776.1.

Tree to 20 m. Leaves with petioles 0.5-4 cm long, blades usually ovate-lanceolate, 5-14 × 1-4.5 cm, base rounded, apex long acute to acuminate. Inflorescence paniculate; calyx campanulate, 2-lobed to base, 4-7 mm long; corolla 1.5-2.5 cm, tube 5-10 mm long, white or pinkish with yellow throat and yellow and purple lines; stamens included. Fruit slender, 26-75 cm long, 2-4 mm in diameter; seed 1 mm in diameter, 7-10 mm wide including the tapering wings, the whole silky pubescent.

GENERAL DISTRIBUTION: Hispaniola, Jamaica.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Dominica!, Martinique!.

COMMON NAMES: Chêne d'amérique, pois doux marron, chêne noir, radegonde.

NOTE: All specimens seen are from plants under cultivation. Fournet (1978) reported the plant to be rare but apparently established.

CERATOPHYTUM Pittier

Ceratophytum Pittier, J. Wash. Acad. Sci. **18:** 62. 1928.

Liana, with interpetiolar gland fields, pseudostipules subulate. Leaves 2- or 3-foliolate, terminal leaflet sometimes replaced with trifid tendril. Inflorescence a few-flowered subcorymbose panicle; calyx cupular, truncate, lepidote, with glands; corolla white, tubular-campanulate, pubescent outside; stamens didynamous, anthers glabrous, thecae divaricate; ovary narrowly cylindric, more or less lepidote. Capsule oblong-linear, subtetragonal, gibbose at base and tapering to apex, the valves woody, smooth, not flattened; seeds bialate, wings brownish with subhyaline tips.

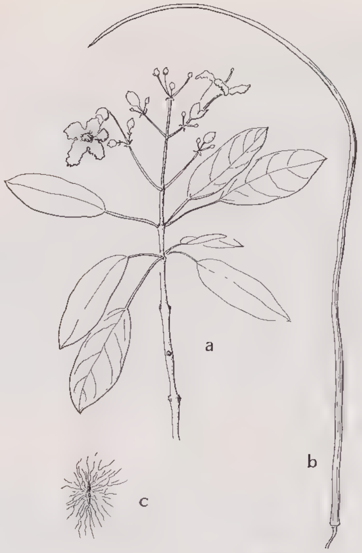
TYPE: *C. capricorne* Pitt. = *C. tetragonolobum* (Jacq.) Sprague & Sandw.

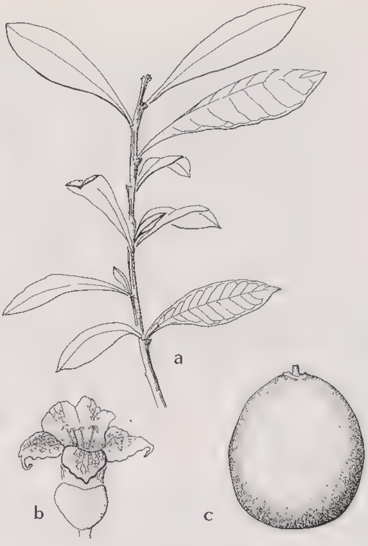
One species from Mexico to Amazonian Peru.

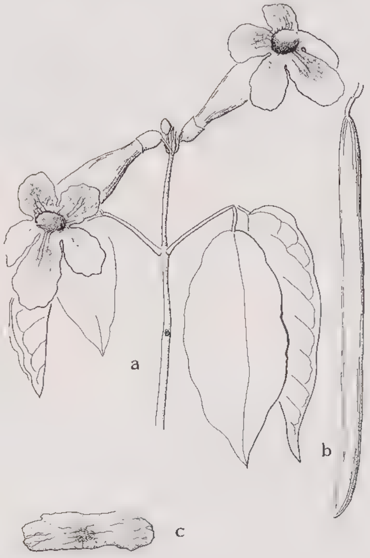
Ceratophytum tetragonolobum (Jacq.) Sprague & Sandw., Kew Bull. **1934:** 222. 1935.

Basionym: *Bignonia tetragonoloba* Jacq., Frag. Bot. 36, *t. 40, f. 2.* 1800-1809.
Type: Venezuela, ibid. *t. 40, f. 2.* No specimens located.

Liana. Leaves 2- or 3-foliolate, petiole 3-12 cm long, petiolules 0.3-4.6 cm long; blades oblong-ovate to elliptic-obovate, base truncate to rounded, apex acute to obtuse, glabrous except in axils of secondary veins. Inflorescence a few-flowered panicle or contracted to 1 or 2 flowers; calyx cupular, truncate, 8-13 mm long, lepidote; corolla tubular-campanulate, 7.7-8 cm long,







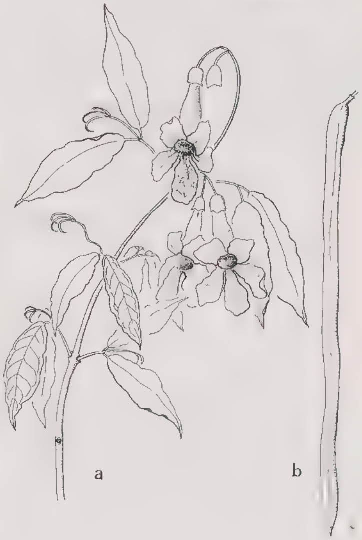


FIGURE 137 (upper left). *Catalpa longissima*: a, flowering shoot, × 0.3; b, fruit, × 0.3; c, seed, × 0.3. FIGURE 138 (upper right). *Crescentia cujete*: a, vegetative shoot, × 0.3; b: flower, × 0.3; c, fruit, × 0.1. FIGURE 139 (lower left). *Cydista aequinoctialis*: a, flowering shoot, × 0.3; b, fruit, × 0.2; c, seeds, × 0.3. FIGURE 140 (lower right). *Macfadyena unguis-cati*: a, flowering shoot, × 0.3; b, fruit, × 0.3.

densely glandular-puberulous to glandular-lepidote, white. Capsule narrowly oblong, subtetragonal, woody, 26-39 cm long, 3-4 cm wide; seeds bialate, 0.8-1.8 × 3.4-6.3 cm.

GENERAL DISTRIBUTION: Mexico to Guyana and Amazonian Brazil.

DISTRIBUTION IN LESSER ANTILLES: Grenada!

NOTES: This seems an unlikely candidate for cultivation, and Gentry suggests the single old collection from Grenada (*Oersted 8011*) probably represents a native species. It has not been recollected in Grenada. Oersted collected in the Antilles, but primarily in Nicaragua. His collections were labelled and numbered at a later date. It is possible that this collection was made in Central America, where the place name Grenada is not uncommon.

CRESCENTIA L.

Crescentia L., Sp. Pl. **2:** 626. 1753.

Trees, stems without gland fields at nodes. Leaves simple or trifoliate, mainly in alternate fascicles. Inflorescence of 1-3 pedicels from old wood; calyx coriaceous, deeply bilabiately split; corolla broadly campanulate, tube transversely plicate below the middle, sparsely lepidote outside, lobes broadly deltoid-triangular, conspicuously acuminate; stamens attached below the middle of the tube, anther thecae glabrous, divergent; ovary unilocular, glabrous, ovules pluriseriate on two parietal bilobed placentae, disk large hemispherical. Fruit large, globose or obovoid, pericarp rigid, fleshy inside; seeds flattened, not winged, embedded in pulp.

TYPE: *Crescentia cujete* L.

A genus of 6 species of tropical America.

KEY TO THE SPECIES

1. Leaves trifoliolate . . . . *C. alata*
1. Leaves simple.
   2. Leaves spatulate, oblanceolate or obovate; fruit > 8 cm. dia. . . . *C. cujete*
   2. Leaves linear or linear-oblanceolate; fruit 3-5 cm dia. . . . . . *C. linearifolia*

Crescentia alata Kunth, *in* H.B.K. Nov. Gen. Sp. **3:** 158. 1819.

Type: Mexico, *Humboldt & Bonpland 3858* (holotype, P).

DISTRIBUTION IN LESSER ANTILLES: Currently cultivated in the Botanical Garden at Basse Terre, Guadeloupe.

Crescentia cujete L., Sp. Pl. **2:** 626. 1753. FIGURE 138.

Type: Plukenet, Phytographia, sive stirp. illus. 3, *t. 171, f. 2.* 1692, ex Wijnand.

Trees to 10 m tall, branches often wandlike, ascending or drooping. Leaves simple, obovate, 4-26 × 1-7.6 cm, base attenuate, apex acute or obtuse, with plate-shaped glands on petiole area beneath, margin entire. Inflorescence of 1 or 2 cauliflorous flowers on old wood or trunk; pedicels > 1.5 cm long; calyx bilabiately split to base, lobes 1.8-2.5 cm long; corolla yellowish tan or greenish-white with purple lines, transversely folded below, 4-7 cm long; stamens subexserted, thecae thick, 5-8 mm long; ovary rounded-conical, lepidote; disk annular-pulvinate. Fruit spherical to ovoid-elliptic, (8-)13-20 cm dia, to 30 cm long, shell thin, hard, smooth; seeds 7-8 mm long, wingless, scattered in pulp.

GENERAL DISTRIBUTION: Native to northern tropical America but widely cultivated in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Calabash, calebassier.

Crescentia linearifolia Miers, Trans. Linn. Soc. **26:** 172, *t. 8, f. 3-5.* 1868.

Type: St. Thomas, *Oersted s.n.* (holotype, P; isotype C (as 7963), MO).

Tree to 7 m tall. Leaves fascicled on short shoots, blades linear to linear-oblanceolate, 2-10 × 0.2-0.7(-2) cm, base attenuate, apex often sharply acuminate or mucronate. Pedicels < 1 cm long; calyx 1-1.5 cm long, bilabiately split to base; corolla campanulate, 3-4 cm long, greenish, lobes lacerate. Fruit globose, 3-5 cm long.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts!.

NOTE: Known from only two collections from St. Barts (*Le Gallo 960, 967*) in bud. Description compiled.

CYDISTA Miers

Cydista Miers, Proc. Roy. Hort. Soc. London **3:** 191. 1863.

Lianas, gland fields lacking, pseudostipules minute and inconspicuous or foliaceous. Leaves simple or 2-foliolate, sometimes with unbranched tendril. Inflorescence an axillary or terminal panicle, often few-flowered; calyx cupular, truncate or shallow bilabiate, lepidote to subhirsute; corolla tubular-infundibuliform, white to magenta, somewhat lepidote; anthers glabrous, thecae divaricate; ovary narrowly cylindrical, lepidote; disk absent. Capsule linear, compressed, valves parallel to septum; seeds flat, bialate, wings thin, brown.

TYPE: *Cydista aequinoctialis* (L.) Miers.

A genus of 4 species of tropical America.

Cydista aequinoctialis (L.) Miers, Proc. Roy. Hort. Soc. London **3:** 191. 1863. FIGURE 139.

Basionym: *Bignonia aequinoctialis* L., Sp. Pl. **2:** 623. 1753.
Type: Cayenne, Plum. Pl. Amer. *t. 55, f. 1.*
Syn.: Bignonia hostmannii E. Meyer, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. **12:** 779. 1825. (Type: Martinique, *Sieber s.n.)*

Liana, to 8 cm in diameter, interpetiolar gland fields wanting, pseudostipules small, caducous. Leaves 2-foliolate, sometimes with unbranched tendril 4-21 cm long, petiole 1-4.5 cm long, petiolules 1.5 cm long; blades ovate to elliptic, 5.4-16 × 2.2-6.5 cm, base broadly cuneate to truncate, or rounded, apex acuminate to obtuse, glandular fields in axils of basal secondary veins. Inflorescence a terminal or axillary panicle, pedicels 1 cm long, bracts linear, 2 mm long; calyx cupular, 4-10 mm long, truncate to bilabiate; corolla tubular-infundibuliform, 2.5-7.6 cm long, tube 1.9-4 cm, white to rose or lavender with maroon lines at base, lobes rounded, 2.5 cm long. Capsule linear, flattened, 21-40 cm long, tip rounded, surface longitudinally wrinkled, lepidote, blackish on drying; seeds 1.4-1.8 × 5-7 cm wide, wings membranaceous, brown.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, Mexico, Central America, south to Brazil and Bolivia.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAME: Liane-crabe.

MACFADYENA A. DC.

Macfadyena A. DC., Prodr. **9:** 179. 1845.

Syn.: *Doxantha* Miers, Proc. Roy. Hort. Soc. **3:** 189. 1863. (Type: *Doxantha unguis-cati* (L.) Miers).

Lianas, interpetiolar gland fields present or lacking; pseudostipules small, lanceolate to ovate; juvenile plants closely appressed to supporting surface, climbing by recurved trifid tendrils, leaves much smaller and tendril larger. Mature leaves 2-foliolate, often with 3-fid uncinate tendrils. Inflorescence an axillary cyme or panicle, often reduced to single flower; calyx broadly campanulate, truncate to subspathaceous, membranaceous; corolla tubular-campanulate, yellow, glabrous; anthers glabrous, thecae divergent; ovary linear-oblong, lepidote or glabrate; disk annular-pulvinate. Fruit narrowly linear, compressed, valves parallel to septum, smooth, seeds thin, bialate, wings short and brown or longer and hyaline at tips.

TYPE: *Macfadyena uncinata* (G. F. W. Meyer) A. DC. = *M. uncata* (Andr.) Sprague.

A genus of 4 species of tropical America.

KEY TO THE SPECIES

Calyx spathelike, upper lip often apiculate; leaflets long-acuminate; interpetiolar gland fields present; seeds wings uniformly brown .... *M. uncata*

Calyx broadly campanulate, truncate or irregularly shallowly lobed; leaflets acute, obtuse or only short acuminate; interpetiolar gland fields wanting; seed wings hyaline tipped .... *M. unguis-cati*

Macfadyena uncata (Andr.) Sprague & Sandw., Recueil Trav. Bot Néerl. **34:** 215. 1937.

Basionym: *Bignonia uncata* Andr., Bot. Repos. *t. 530.* 1808.
Type: French Guiana (introduced to England) *ibid. t. 530.*

Liana, juvenile plant with small leaflets, ovate to lanceolate, variable in size and shape, 1.5-3 × 0.3-1 cm, climbing by tendrils or adventitious roots; adult leaves 2-foliolate, with trifid tendrils; petioles 1-3.5 cm, petiolules 0.5-2.5 cm, leaflets ovate to elliptic, 5-18 × 2-9 cm, base cuneate or rounded, apex long-acuminate, sparsely lepidote or puberulent. Inflorescence axillary, a few-flowered panicle, or the flowers solitary, pedicels 1 cm long; calyx spathe-like, 1.5 cm long, split, upper lip incurved in a point, usually sparsely glandular; corolla tubular-campanulate, 4-8 cm long, lobes 0.7-1.5 cm long, yellow. Capsule linear, 16-30 × 1.5-2 cm, compressed, acute; seeds 1.5 × 3 cm, wing dark brown, not clearly demarcated.

GENERAL DISTRIBUTION: Mexico, Central America, Cuba, Trinidad to Brazil.

DISTRIBUTION IN LESSER ANTILLES: St. Lucia!.

Macfadyena unguis-cati (L.) A. Gentry, Brittonia **25:** 236. 1973.
FIGURE 140.

Basionym: *Bignonia unguis-cati* L., Sp. Pl. **2:** 623. 1753.
Type: Plumier, Desc. Pl. Amer. *t. 94.*
Syn.: *Bignonia unguis* L. emend. DC., Proc. **9:** 146. 1845. (Type: Nom. nov. for *B. unguis-cati.*
Batocydia unguis (L. emend. DC.) Mart. ex DC., Prodr. **9:** 146. 1845.
Doxantha praesignis Miers, Proc. Roy. Hort. Soc. London **3:** 190. 1863, nom. nud. (Type: ''Santo Domingo'' (sic, probably Dominica) *Imray s.n.* (fragm., P).
Doxantha serrulata Miers, Proc. Roy. Hort. Soc. London **3:** 190. 1863. nom. nud. (Type: Guadeloupe, *Duchassaing s.n.*)
Doxantha unguis-cati (L.) Miers emend. Rehder, Mitt. Deutsch. Dendrol. Ges. **1913:** 262. 1913.

Liana. Juvenile plants with leaflets ovate to lanceolate-elliptic, 1-2 × 0.4-0.8 cm, with strongly developed uncinate 3-fid tendrils. Nodes without interpetiolar gland fields, pseudostipules ovate, 1 to 2 mm long. Leaves 2-foliolate, sometimes with a trifid tendril, the mature petioles 1-4 cm, petiolules 0.5-2.5 cm long, blades narrowly ovate to lanceolate or ovate, 5-16 × 1.2-6.9 cm, base cuneate to truncate, apex acute to acuminate, or obtuse, with scattered lepidote glands, commonly turning black on drying. Inflorescence axillary, a small reduced panicle, usually only 1- to 3-flowered, pedicels 2 cm long; calyx campanulate, flaring with sinuate margin, 0.5-1.5 cm long, with scattered glands; corolla 4.5-10 cm long, yellow with orange-red lines in throat, tube 3.3-6.9 cm long, constricted at point of stamen attachment, lobes 1.2-3.1 cm, glabrous outside, glabrous or slightly pubescent inside. Capsule elongate, linear, tapering at ends, 24-95 × 1-1.4 cm, surface lepidote, drying blackish with lighter lenticels; seeds 1-2 cm long, 4.2-5.8 cm wide, membranaceous-winged, blunt, brown, except the tips hyaline.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America south to Argentina.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Barbuda!, Antigua!, Saba!, St. Eustatius!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Cat's-claw, griffe à chatte.

MANSOA A. DC.

Mansoa A. DC., Bibl. Univ. Genève, sér. 2, **17:** 128. 1838.

Syn.: *Pachyptera* DC. ex Meisn., Gen. **1:** 299; **2:** 207. 1840. (Type: *P. foveolata* DC. = *M. kerere* (Aubl.) A. Gentry.)

Pseudocalymna Samp. & Kuhlm., O Campo (Rio de Janeiro) **4**(11): 15. 1933. (Type: *P. laevigatum* (Bur. & K. Schum.) Samp. & Kuhlm. = *M. hymenaea* (DC.) A. Gentry.)

Liana with or without interpetiolar gland fields, pseudostipules short and obtuse-conical to vertically 2- or 3-seriate. Leaves 2- or 3-foliolate, the terminal leaflet sometimes replaced with a trifid (rarely simple) tendril. Inflorescence a terminal or axillary panicle or raceme; calyx cupular to campanulate, truncate to 5-dentate, lepidote and sometimes puberulous; corolla tubular-infundibuliform, puberulous outside at least on the lobes; stamens didynamous, anthers glabrous, thecae divaricate; ovary cylindric, usually glandular-lepidote or -papillate. Capsule varying from linear and extremely compressed to oblong, woody and not at all compressed; seeds thin and bialate to thick and wingless.

TYPE: *M. hirsuta* DC.

A genus of 15 species from Mexico to Argentina.

KEY TO THE SPECIES

1. Vegetative parts with conspicuous onion odor; petiolar and interpetiolar gland fields present; fruit smooth.
    2. Fruit oblong, the valves woody with strongly raised midline; leaflets in part 15 cm long, with conspicuous glands in axils of lowermost secondary vein-pair arising well above the base . . . . *M. alliacea*
    2. Fruit linear, valves thin, compressed, the midline slightly raised; leaflets 15 cm long, lacking glands at base or with glands in axils of lowermost secondary vein-pair arising from near base . . . . *M. hymenaea*

1. Vegetative parts with rather rank but not at all onionlike odor; petiolar and interpetiolar gland fields absent; fruit verrucose-tuberculate....... *M. verrucifera*

Mansoa alliacea (Lam.) A. Gentry, Ann. Missouri Bot. Gard. **66:** 782. 1979.

Type: French Guiana, *Aublet s.n.* (P-AD).

DISTRIBUTION IN LESSER ANTILLES: Formerly cultivated in Martinique (*Hahn s.n.*) and the St. Vincent Botanical Garden (*Anderson s.n.*), presumably from French Guiana stock.

Mansoa hymenaea (DC.) A. Gentry, Ann. Missouri Bot. Gard. **66:** 782. 1979.

Basionym: *Bignonia hymenaea* DC., Prodr. **9:** 158. 1845. (Type: Brazil, Bahia, *Blanchet 1434* (G-DC, P).)

Liana. Leaves 2-foliolate, sometimes with a trifid tendril; petiole 1-3.5 cm long, petiolules 1-2.6 cm long, blades ovate to elliptic, base obtuse to truncate, apex obtuse to acute, glabrous. Inflorescence a more or less contracted panicle, usually terminal on young shoots, puberulous; calyx cupular, truncate or minutely 5-denticulate, 4-6 mm long, slightly lepidote to puberulous; corolla tubular-infundibuliform, 4-5 cm long, tube glabrous, lobes puberulous outside, lavender to magenta. Capsule linear, flattened, 15-23 cm long, 1.7-2 cm wide, surface smooth, midvein noticeably raised; seeds thin, bialate, wing mostly brownish, hyaline at tip.

GENERAL DISTRIBUTION: Native from Mexico to southeastern Brazil, also widely cultivated.

DISTRIBUTION IN LESSER ANTILLES: St. Lucia!, Grenada!.

NOTES: There is no indication of cultivation on the last century collections from St. Lucia (*Oersted 7959*) and Grenada (*Oersted 8011*), although the species is also widely cultivated. It is possible that the Oersted collections were made in Nicaragua.

Mansoa verrucifera (Schlecht.) A. Gentry, Ann. Missouri Bot. Gard. **63:** 62. 1976.

Basionym: *Bignonia verrucifera* Schlecht., Linnaea **26:** 655. 1853.
Type: Venezuela, *Wagener 307* (holotype, B, presumably destroyed).
Syn.: *Setilobus vincentinus* Kranzl., Repert. Spec. Nov. Regni Veg. **17:** 122. 1921. (Type: St. Vincent, *Caley s.n.*, W.)

NOTES: Formerly cultivated in the St. Vincent Botanical Garden. The Caley specimen was probably collected from the plant introduced by Anderson from Trinidad in 1786. A collection of a cultivated plant, *Duss 3064*, is known from Guadeloupe.

PHRYGANOCYDIA Mart. ex Bur.

Phryganocydia Mart. ex Bur., Bull. Soc. Bot. Fr. **19:** 18. 1872.

Liana, without interpetiolar gland fields or pseudostipules. Leaves 2-foliolate, sometimes with a simple tendril. Inflorescence a few-branched panicle or reduced to 1 to few flowers; calyx spathaceously split; corolla tubular-infundibuliform, lepidote outside, lavender to magenta; stamens didynamous, anthers glabrous, thecae divaricate; ovary rounded-conical to narrowly cylindrical, lepidote; disk absent. Capsule (in Antillean species) linear, compressed, median nerve indistinct, lepidote; seeds thin, bialate, wings brown.

TYPE: *P. corymbosa* (Vent.) Bur. ex K. Schum.

A genus of three neotropical species from Costa Rica to Brazil.

Phryganocydia corymbosa (Vent.) Bur. ex K. Schum., *in* Engl. & Prantl, Nat. Pflanzenfam. **4**(3b)**:** 224. 1894.

Basionym: *Spathodea corymbosa* Vent., Choix Pl. *t. 40.* 1807; Mém. Math. Phys. Inst. Natl. Fr. **1:** 19. 1807. (Type: Trinidad, *Riedle s.n.* (P).)

Liana. Leaves 2-foliolate, petiole 0.6-3.3 cm long, petiolules 0.5-3 cm long; blade elliptic to ovate-elliptic, 4-22 × 2-10 cm, base acute, apex acuminate to obtuse, densely minutely lepidote. Inflorescence a small axillary or terminal panicle, lepidote; calyx spathaceous, 2-4 cm long; corolla tubular-infundibuliform, 4.5-9.5 cm long, lepidote, lavender to magenta. Capsule linear-oblong, 13-53 × 1.4-2.3 cm, acute, grayish, densely lepidote; seeds bialate, 1.5-2 × 4.7-7 cm.

GENERAL DISTRIBUTION: Panama to Brazil and Bolivia.

DISTRIBUTION IN LESSER ANTILLES: Montserrat! (cult.), Grenada!.

NOTES: The single Grenada collection (*Fairchild 2817* (MICH, US)) is sterile and the label on the US specimen states, "The botanic garden, Grenada." The species is extremely common on Trinidad and the nearby mainland.

SCHLEGELIA Miq.

Schlegelia Miq., Bot. Zeit. (Berlin) **2:** 785. 1844.

Lianas or scandent shrubs, climbing by adventitious roots, without interpetiolar glandular fields, pseudostipules small, conical to subulate, appressed. Leaves opposite, simple, with petioles, coriaceous. Inflorescence an axillary or terminal raceme or panicle, often conspicuously bracteate; calyx cupular, truncate or irregularly lobed; corolla tubular-campanulate to narrowly tubular, white to pink, purple or red, rarely yellow, glandular-lepidote on lobes inside; stamens 4, didynamous, anthers glabrous, thecae thick, short; ovary globose, bilocular at least at the base. Fruit a spherical berry with crustaceous or hard pericarp, the base subtended by the persistent calyx; seeds small, angular, wingless, surrounded by pulp.

TYPE: *Schlegelia lilacina* Miq. = *Schlegelia violacea* (Aubl.) Griseb.

A genus of 15 species of the American tropics placed by some in the Scrophulariaceae. See Monachino, Phytologia **3:** 102-105. 1949; Williams, Fieldiana Bot. **32:** 211-214. 1970, and J. E. Armstrong, Amer. J. Bot. **72:** 755-766. 1985. However, in either family the genus is discordant. It is in appearance more readily associated with the Bignoniaceae, hence placed here.

Schlegelia axillaris Griseb., Fl. Brit. W. Indian Is. 445. 1862.
FIGURE 141.

Type: Dominica, *Imray s.n.* (holotype, K, isotype a fragment, GOET).
Syn.: *Schlegelia urbaniana* K. Schum., *in* Mart. Fl. Bras. 8, **2:** 400. 1897. (Type: Guadeloupe, *Duss 2418* (MO).)

Scandent shrub or epiphyte, to 10 m high, stems with adventitious roots. Leaves with petioles 1.5 cm long, blades elliptic, 6-13 × 4.5-9 cm, base cuneate or rounded, narrowed, apex acute, obtuse or emarginate, coriaceous. Inflorescence axillary, racemose, 3-5 cm long, puberulous, bracts and bracteoles 1-1.5 mm long; pedicels 5-15 mm long, calyx 4 mm long, shallowly triangularly lobed; corolla broadly campanulate, tube 8-10 mm long, lobes 4-5 mm long, spreading or reflexed, white. Fruit spherical, 8-10 mm in diameter, red-purple; seeds angular, 2.5 mm long, tuberculate.

GENERAL DISTRIBUTION: Jamaica.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!

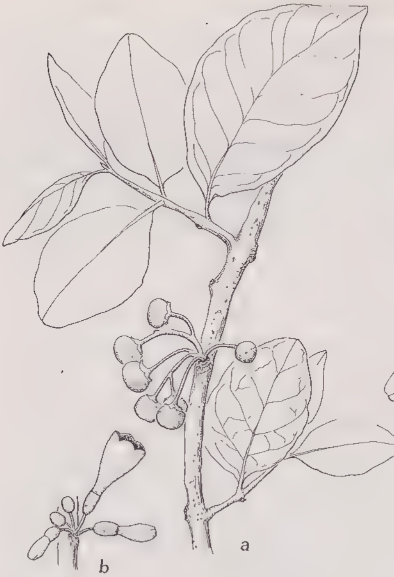
COMMON NAME: Z'yeux à crabe.

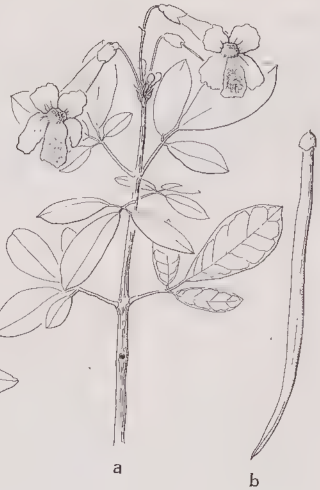
TABEBUIA Gomes ex DC.

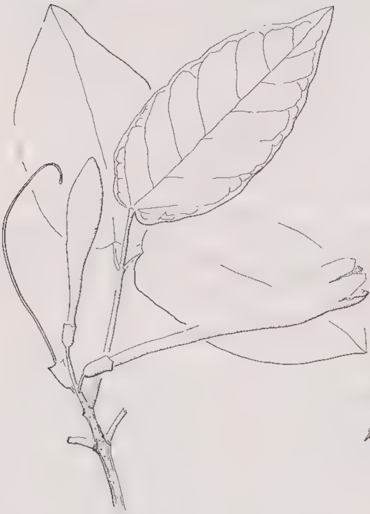
Tabebuia Gomes ex A. P. DC., Biblioth. Universelle Genève sér. 2, **17:** 130. 1838.

Shrubs to trees, frequently flowering in leafless condition; glandular fields and pseudostipules wanting. Leaves 1- to 3- to 7-digitately foliolate, petiolate. Inflorescence terminal, usually a panicle, sometimes reduced to raceme or a single flower; calyx campanulate or tubular, truncate, bilabiate or shallowly lobed; corolla tubular-infundibuliform, tubular-campanulate, or salverform-tubular, white, yellow, pink, lavender or red, glabrous or puberulous outside; anthers glabrous, thecae straight, divaricate; ovary linear-oblong, often lepidote. Capsule subterete, linear-elongate, or short and oblong, dehiscing perpendicularly to septum, surface smooth to wavy-muricate, glabrous, lepidote or pubescent; seeds bialate with hyaline-membranaceous wings, or thick and corky with reduced wings.

LECTOTYPE: *Tabebuia uliginosa* (Gomes) A..P. DC. ex Sandwith = *T. cassinoides* (Lam.) DC.







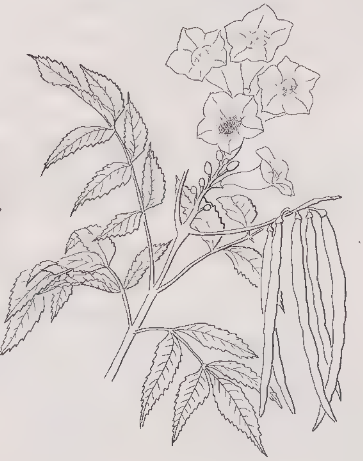


FIGURE 141 (upper left). *Schlegelia axillaris*: a: flowering shoots, × 0.3, b: flower cluster, × 0.3. FIGURE 142 (upper right). *Tabebuia heterophylla*: a: flowering shoot, × 0.3, b: fruit, × 0.3. FIGURE 143 (lower left) *Tanaecium crucigerum*: × 0.3. FIGURE 144 (lower right). *Tecoma stans*: × 0.2.

A genus of 100 species of tropical America. The Lesser Antillean species have received varied treatments by previous authors and the nomenclature is complex. The following treatment is based on the forthcoming treatment by A. Gentry for Flora Neotropica monographs.

KEY TO THE SPECIES

1. Flowers white, salverform, > 6 cm long; leaves simple; cultivated (St. Vincent) . . . . *T. stenocalyx* Sprague & Stapf
1. Flowers usually yellow or pink, tubular-infundibuliform or tubular-campanulate, < 6 cm long; leaves 1- to 7-foliolate.
    2. Flowers yellow; young twigs and usually the leaves with stellate or dendroid trichomes; cultivated.
        3. Leaflets serrate to serrulate; dendroid pubescent on entire lower leaf surface; calyx thin, membranaceous, similar in texture to corolla . . . . *T. chrysea* Blake
        3. Leaflets entire or undulate on mature trees; stellate pubescent mostly along the veins, or simple pubescent only in the vein axils; calyx coriaceous, thicker than the corolla.
            4. Calyx sparsely thick-stellate puberulous; leaves with simple trichomes in axils of lateral nerves (St. Vincent) . . . . *T. serratifolia* (Vahl) Nichols.
            4. Calyx densely stellate pubescent; leaves with stellate trichomes at least along main vein below; cultivated and naturalized . . . . *T. chrysantha* (Jacq.) Nichols.
    2. Flowers pink, rose or whitish; leaves and young twigs only with peltate-lepidote scales; cultivated or native.
        5. Leaflets (3-) 5, long-acuminate; capsule 20 cm long; cultivated (Martinique, St. Lucia) . . . . *T. rosea* (Bertol.) DC.
        5. Leaflets 1-5, apices acute, obtuse or rounded; capsule < 20 cm long; native.
            6. Leaves 1(-3)-foliolate . . . . *T. pallida*
            6. Leaves mostly 3- to 5-foliolate.
                7. Leaflets (in our area) 9-13 × 4-8 cm, margin entire; the terminal leaflet usually more or less obovate to obovate-elliptic; terminal petiolule 0.2-5.5 cm long; corolla 3.5-7 cm long . . . . *T. heterophylla*
                7. Leaflets 2-5 × 1-3 cm, margins conspicuously revolute or minutely erose, mostly narrowly oblong-elliptic; lateral and sometimes the terminal leaflets sessile or subsessile; corolla (in our area) 3-5 cm . . . . *T. lepidota*

Tabebuia chrysantha (Jacq.) Nichols., Dict. Gard. **4:** 1. 1887.

Basionym: *Bignonia chrysantha* Jacq. Hort. Schoenbr. **2:** 45, *t. 211.* 1797.
Type: Venezuela, Curaçao, no Jacquin specimens located.
Syn.: *Tecoma spectabilis* sensu Griseb. Fl. Brit. W. Indian Is. 1861, non Planchon.
Tabebuia rufescens J. R. Johnston, Proc. Amer. Acad. Arts **40:** 696. 1905. (Type: Margarita, *Johnston 79* (holotype, GH).
Tabebuia glomerata Urban, Repert Spec. Nov. Regni Veg. **14:** 305. 1916, in part for specimens cited from Grenada, St. Vincent, Jamaica.

Tree to 40 m, twigs stellate pubescent. Leaves with petioles 10-14 cm long, petiolules 1.2-9 cm long, 5- to 7-foliolate, leaflet blades broadly elliptic to oblong-ovate, base asymmetrical rounded or subtruncate, apex obtuse to abruptly acuminate, terminal leaflet 6-13(-17) × 3-5.5(-9) cm, middle and lateral leaflets progressively smaller, mostly entire on mature trees, lepidote and stellate pubescent at least along veins below. Inflorescence a contracted terminal panicle; calyx campanulate, 5-lobed, 5-9 mm long; corolla tubular-infundibuliform, 4-8 cm long, yellow, tube 2-5 cm, lobes 1-2 cm; ovary linear; disk pulvinate. Capsule linear-cylindric, 15-50 × 1-2 cm, sparingly stellate, tapering at both ends; seeds 0.4-0.9 × 1.4-3.3 cm, wings hyaline-membranaceous.

GENERAL DISTRIBUTION: Mexico to Panama, Trinidad, Venezuela and Amazonian Peru.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Tabebuia heterophylla (DC.) Britton, Ann. Mo. Bot. Gard. **2:** 48. 1915.
FIGURE 142.

Basionym: *Raputia heterophylla* DC., Mém. Mus. Paris **9:** 153. 1822.
Type: Puerto Rico, *Bertero s.n.*
Syn.: *Bignonia leucoxylon* L., Sp. Pl. **1:** 624. 1753. (Type: Jamaica, ex Hort. Cliff. LINN 776.4) non *Tabebuia leucoxyla* DC., non *B. leucoxylon* L., Sp. Pl. ed. 2, 870. 1763.
Bignonia pentaphylla L., Sp. Pl. ed. 2, 870. 1763, nom. nov. for *B. leucoxylon* L.
Bignonia leucoxylon L., Sp. Pl. ed. 2, 870. 1763. (Type: Barbados, Plukenet, Phytographia *t. 200, f. 4.* 1692) non *B. leucoxylon* L. (1753).
Tecoma pentaphylla (L.) A. P. DC. *in* DC., Prodr. **9:** 217. 1824.
Tabebuia pentaphylla (L.) Hemsley, Biol. Centr.-Amer. 495. 1882.
Tecoma eggersii Kraenzlin, Repert. Spec. Nov. Regni Veg. **17:** 219. 1921. (Type: Puerto Rico, *Eggers, ed. Toep. 984.)*
Tabebuia pallida ssp. *heterophylla* (A. DC.) Stehlé, Carib. Forestr. 6, Suppl. 338. 1945.
Tabebuia pallida ssp. *pentaphylla* Stehlé, Carib. Forestr. 6, Suppl. 329, 338. 1945.
Tabebuia heterophylla ssp. *pallida* sensu Stehlé, Bul. Soc. Bot. France **101:** 12-13: 32. 1946.
Tabebuia leucoxylon sensu Fournet, non DC.

Shrubs or trees, to 20 m tall. Leaves mostly 3- to 5-foliolate, on petioles 0.5-8(-14) cm, terminal petiolule 0.2-5.5 cm, lateral shorter, leaflets variable in size and shape, oblong, elliptic, or obovate-oblong, terminal leaflet largest, (1-)9-13(-16) × (0.4-)4-8 cm base obtuse to rounded, apex obtuse to emarginate, rarely acute, subcoriaceous, sparsely lepidote, margins entire. Inflorescence terminal, a few-flowered panicle or reduced to only 1 or 2 flowers, pedicels 1-3 cm long, bracts linear 2 mm long; calyx 7-12 mm long, irregularly lobed, densely lepidote; corolla tubular-infundibuliform, 4-7 cm long, widely flaring above, lobes to 2 cm, pink or pale violet with yellowish center. Capsules terete, linear, 20 × 0.6-1 cm, apex attenuate; seeds flattened, bialate, 0.7-0.9 × 2-3 cm, wings hyaline-membranaceous.

GENERAL DISTRIBUTION: Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Cedar, white poui, poirier.

NOTES: The nomenclature of this species or species complex is extremely involved, difficult, and clearly beyond the scope of this work. Gentry (pers. comm.) proposes reduction of many additional species, further complicating the synonymy.

Tabebuia lepidota (HBK) Britton, Bull. Torrey Club **42:** 377. 1915.

Basionym: *Bignonia lepidota* Kunth *in* H.B.K., Nov. Gen. Sp. (ed. quarto) **3:** 139. 1818, (ed. folio) **3:** 108. 1818.
Type: Cuba, *Bonpland s.n.*

Shrub or small tree, to 2(-4) m, stems lepidote. Leaves mostly 3-5-foliolate, petioles 0.3-1(-1.5) cm, petiolules 1-5 mm, blades oblanceolate to oblong-obovate 1.3-5(-7) × 0.5-2(-3) cm, the middle leaflet largest, base cuneate to rounded, apex rounded, retuse or short apiculate, coriaceous, margin commonly revolute, lepidote. Inflorescence usually a single terminal flower, sometimes 2- or 3-flowered; peduncle (if present) to 2 cm, pedicels to 1 cm; calyx campanulate, 7-15 mm long, irregularly 2-4(-5)-labiate, ferrugineous-lepidote; corolla tubular-infundibuliform, tube ampliate above, slightly curved, to 3-5 cm long, rose or rose-purple, lobes 1-1.5 cm long. Capsule linear-cylindric, 6-11(-14) × 0.5-0.7 mm; seeds bialate, 4-5 mm long; wings hyaline-membranaceous.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, Barbuda!.

COMMON NAMES: Bark, cedar, white cedar.

Tabebuia pallida (Lindley) Miers, Proc. Roy. Hort. Soc. **3:** 199. 1863.

Basionym: *Bignonia pallida* Lindley, Bot. Reg. **12:** *t. 965.* 1826.
Type: ibid. *t. 965*, a cultivated plant sent from St. Vincent by Caley.
Syn.: *Bignonia cranalis* Krause, Bot. Centralbl. Beih. **32**(2): 335. 1914. (Type: Barbados, *Krause 18430* n.v.)
Tabebuia dominicensis Urban, Repert. Spec. Nov. **19:** 308. 1924. (Type: Dominica, *Ramage s.n.*)
Tabebuia heterophylla subsp. *pallida* (Lindley) Stehlé, Bull. Soc. Bot. Fr. **93:** 33. 1946.
Tabebuia heterophylla subsp. *dominicensis* (Urb.) Stehlé, Bull. Soc. Bot. Fr. **93:** 33. 1946.

Shrub or large tree to 35 m (fide Stehlé). Leaves 1- to 3-foliolate, with petioles 1-5(-7) cm long, articulated, leaflet elliptic to elliptic-oblong, (5.5-)9-16 × (4-)5.5-9 cm, base rounded or truncate, apex obtuse, lepidote, margin entire; lateral leaflets rarely 1 or 2, one-half size of terminal leaflet. Inflorescence terminal, a few-flowered panicle, or reduced to 1 or 2 flowers, calyx cupular, 1-1.7 cm long, bilabiate or unevenly 4- or 5-lobed, lepidote; corolla tubular-infundibuliform, 5-8 cm long, lobes 1-2 cm long and wide, often erose, pinkish lavender to almost white, throat yellowish; stamens didynamous, thecae 3 mm long; ovary lepidote. Capsule linear-cylindric, (7-)11-23 × 0.8-1 cm, tapering both ends; seeds bialate 5-8(-9) mm × 2-3 cm, wings hyaline-membranaceous.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Cedar, white cedar, poirier, poirier blanc.

Notes: Very tenuously distinguished from *T. heterophylla*, which occurs on the same islands, but mostly on the drier leeward sides.

TANAECIUM Sw.

Tanaecium Sw., Prodr. 91. 1788.

Lianas. Stems usually with interpetiolar gland fields, pseudostipules inconspicuous or absent. Leaves 2- or 3-foliolate, terminal leaflet often replaced with simple tendril. Inflorescence an axillary or terminal raceme or racemose-panicle; calyx cupular, truncate or minutely 5-denticulate, with plate-shaped glands; corolla elongate-tubular to hypocrateriform, pubescent or glabrous outside, white; stamens exserted, anthers glabrous, thecae straight or arcuate, slightly divaricate; ovary oblong, lepidote; disk cupular-pulvinate. Capsule oblong-cylindric, valves parallel to septum, thick, woody, smooth; seeds wingless (in our area).

Type: *Tanaecium jaroba* Sw.

A genus of 6 species of tropical America.

Key to the Species

Leaves densely canescent below with short, whitish trichomes... *T. crucigerum*

Leaves glabrous below or with longer trichomes restricted to main veins or scattered over the surface .... *T. jaroba*

Tanaecium crucigerum Seem., Bonplandia **4:** 127. 1856, non *B. crucigerum* L. Figure 143.

Type: Dominica, *Imray 95* (k).

Liana. Leaves mostly 3-foliolate, terminal leaflet occasionally replaced with a simple tendril; petioles 2.5-6 cm, petiolules 0.5-3.5 cm, leaflets ovate to elliptic, 5-15 × 2.5-7(-11) cm, base obtuse to truncate, apex rounded, obtuse, or subacuminate, floculose-whitish pubescent below, margin entire. Inflorescence usually a terminal raceme, pedicels 1-1.5 cm; calyx cupular, 10-14 mm long, truncate, minutely 5-denticulate, with plate-shaped glands; corolla 14-19 cm long, expanded above, lobes 2-2.4 cm, rounded, floculose pubescent outside and on lobes inside, white. Capsule cylindric, 12-16 × 5-8 cm, with lepidote scales; seeds rectangular, slightly flattened, woody 2-3.6 × 2-3.2 cm, wingless.

GENERAL DISTRIBUTION: Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!.

COMMON NAME: Fleur trumpette.

NOTES: Anderson, in his unpublished Hortus, reported ''Bignonia crucigerum L. . . . in one or a few parts of the leeward side of this island, from whence I brought it to the Garden.'' For this plant he described leaves of a ''beautiful, downy white on the underside.'' It would appear to be this species.

Tanaecium jaroba Sw., Prodr. 92. 1788.

Type: Jamaica, Sw. Fl. Ind. Occ. **2:** *t. 20, f. 1.* 1800.

Liana. Leaves mostly 3-foliolate, terminal leaflet occasionally replaced with a simple tendril, petioles 5-6 cm long, petiolules 1-3 cm long; leaflets elliptic, 8-10 × 4-6 cm, base truncate or rounded, apex acute or rounded, glabrous except for a few trichomes along veins. Inflorescence a terminal raceme on a short lateral branch, pedicels 1.3-2.4 cm long; calyx cupular, 10-15 mm long, truncate, minutely 5-denticulate, with plate-shaped glands; corolla 18-35 cm long, expanded above, lobes 2-3 cm long, densely glandular-puberulous outside, white. Capsule cylindric, 14-22 × 6-11 cm, glabrous or with a few lepidote scales, valves convex, woody; seeds rectangular, slightly flattened, woody, 2.5-3.3 × 3-3.2 cm, wingless.

GENERAL DISTRIBUTION: Costa Rica to Amazonia, also Jamaica.

DISTRIBUTION IN LESSER ANTILLES: A single Lesser Antillean specimen at P is a very old one from St. Vincent without collector's name indicated.

TECOMA Juss.

Tecoma A. L. Juss., Gen. Pl. 139. 1789.

Syn.: *Stenolobium* D. Don, Edinb. Phil. J. **9:** 264. 1823. (Type: *S. castanifolium* D. Don. = *Tecoma castanifolium* (D. Don) Melch.

Tecomaria Spach, Hist. Nat. Veg. Phan. **3:** 137. 1840. (Type: *T. capensis* (Thunb.) Spach = *Tecoma capensis* (Thunb.) Lindl.

Shrubs or small trees, interpetiolar gland fields wanting, pseudostipules small or wanting. Leaves opposite, imparipinnately compound, leaflets crenate or serrate. Inflorescence terminal, racemose, or a racemose panicle; calyx cupular, 5-dentate, corolla tubular-campanulate to narrowly tubular-salverform, lobes rounded, yellow to orange-red; stamens 4, didynamous, included or exserted, anther thecae divergent, at least basally; ovary narrowly cylindrical, more or less lepidote. Capsule linear, elongated, somewhat compressed, dehiscing perpendicularly to septum, valves smooth, thin; seeds bialate, wings hyaline membranous.

LECTOTYPE: *Tecoma stans* (L.) Juss. ex Kunth.

A genus of 14 species, 12 in tropical America, and two in Africa. The African species are sometimes segregated as the genus *Tecomaria*.

KEY TO THE SPECIES

Flowers red-orange; anthers exserted, thecae basally fused; cultivated shrub.... .... *T. capensis* (Thunb.) Lindl.

Flowers yellow; anthers included, thecae divaricate.................... *T. stans*

Tecoma stans (L.) Juss. ex Kunth *in* H.B.K. Nov. Gen. Sp. **3:** 144. 1819. FIGURE 144.

Basionym: *Bignonia stans* L., Sp. Pl. ed. 2, **2:** 871. 1763.
Type: Haiti (?), Plumier, Pl. Amer. *t. 54.* 1756.
Syn.: *Stenolobium stans* (L.) Seem., J. Bot. **1:** 88. 1863.
Tecoma stans (L.) Kunth var. *apiifolia* Hort. ex DC. *in* DC., Prodr. **9:** 224. 1845. (Type: Guadeloupe, *Bertero s.n.* (G-DC).)

Shrubs or small trees, to 5(-10) m tall. Leaves (3-)5- to 9-foliolate; petioles, 1-9 cm long, blades sessile or short petiolate, ovate-lanceolate, terminal leaflet largest, (2.5-)5-10(-15) × (0.8-)3-4(-6) cm, base attenuate, apex long-acuminate, glabrous or puberulous along midrib, or at least in nerve-axils, margin serrate. Inflorescence terminal, a raceme or racemose panicle; pedicels ca. 7 mm long, calyx cupular, 3-7 mm long, with 5 deltoid apiculate lobes, with plate-shaped glands; corolla tubular-campanulate to narrowly tubular-infundibuliform, 3.5-5.8 cm long, lobes rounded, 1-1.5 cm long, yellow; stamens included, thecae divergent, sparsely pilose. Capsule linear, 7-21 × 0.5-0.8 cm, slightly compressed, tapering at both ends, valves smooth, glabrous or inconspicuously lepidote; seeds thin, bialate, 3-5 × 1.5-2.7 cm, wings hyaline-membranaceous.

GENERAL DISTRIBUTION: Greater Antilles, Southwestern US and south Florida to Argentina.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Saba!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados.

COMMON NAMES: Bois caraïbe, bois-pissenlit, bois fleur jaunes, flambeaux.

PEDALIACEAE

PEDALIACEAE R. Brown, Prodr. 519. 1810.

Herb, often with mucilage, glandular or puberulous. Leaves opposite or upper alternate, simple, exstipulate. Flowers axillary, solitary or fascicled, perfect, zygomorphic; calyx 5-parted; corolla tubular to obliquely campanulate, obscurely 2-lipped, 5-lobed; stamens 4, staminodium often present, epipetalous, didynamous or distinct, disk fleshy; ovary superior, 2- to 4-celled, ovules several. Fruit capsular.

TYPE: *Pedalium* Royen ex L.

A family of 12 genera and 50 species of tropical Africa to Malaysia.

SESAMUM L.

Sesamum L. Sp. Pl. **1:** 634. 1753.

Annual herbs. Leaves petiolate, the lower opposite, the upper alternate. Flowers axillary, solitary or fascicled; sepals 5, basally connate; petals 5 connate in tube, disk annular, fleshy; ovary 2- to 4-loculed, ovules several in each locule. Fruit capsular, oblong to ovoid, loculicidally dehiscent, 4-grooved and angled, apex rostrate; seeds small, numerous, usually pyriform or obovate, winged or exalate, smooth to rugose.

TYPE: *Sesamum indicum* L.

A genus of 30 species of South Africa and Asia.

Sesamum indicum L., Sp. Pl. **2:** 634. 1753. FIGURE 146.

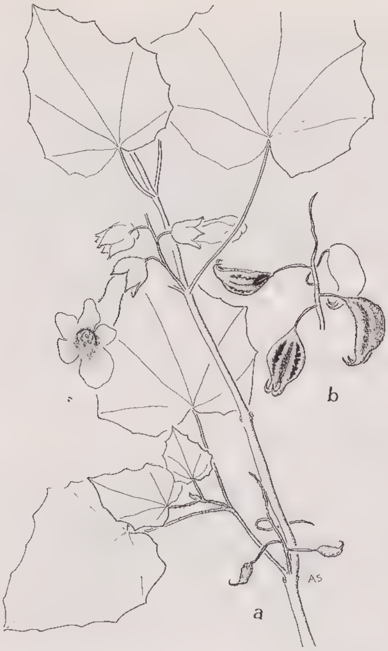
Type: India, LINN 802.3.
Syn.: *Sesamum orientale* L., Sp. Pl. **2:** 634. 1753. (Type: "Zeylona, Malabaria," LINN 802.1, 802.2.

Annual herb, to 50 cm tall. Leaves with petioles 0.5-2.5 cm long; blades lanceolate, ovate-lanceolate or oblong, 3-12 × 0.5-2 cm, base cuneate, apex acuminate, entire to lobed, glabrate above, pilose and densely glandular below. Pedicels 0.5 cm long; calyx lobes lanceolate, 2-6 mm long, pilose and densely glandular; corolla 20-30 mm long, pilose or hirsute, malodorous, pale pink. Capsule oblong, 1.5-2.5 cm long, short-beaked, strongly 4-grooved, pilose; seeds 2-3 mm long, dorsally compressed, wingless, rugose, black, brown or white.

GENERAL DISTRIBUTION: Native of India but widely cultivated and naturalized in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Martinique!, St. Lucia!, St. Vincent!, Grenada.

COMMON NAMES: Sésame, girgigi.



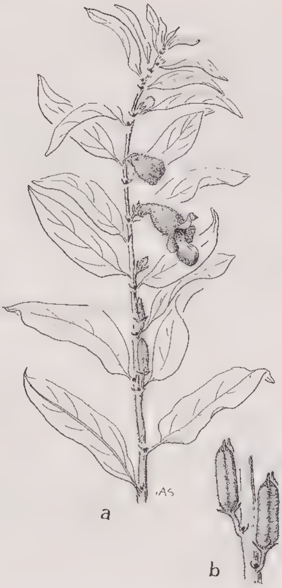


FIGURE 145 (left). *Martynia annua*: a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 146 (right). *Sesamum indicum*: a, flowering shoot, × 0.35; b, fruit, × 0.35.

MARTYNIACEAE

MARTYNIACEAE Stapf, *in* Engl. & Prantl, Nat. Pflanzenfam. **4**(3b): 265. 1895.

Annual herbs, often glandular pubescent. Leaves exstipulate, alternate, simple, usually cordate at base. Inflorescence racemose, terminal; flowers perfect, zygomorphic, hypogynous, pediceled; calyx 5-parted, sepals zygomorphic, bibracteolate; corolla base tubular, upper portion campanulate, 5-lobed, imbricate, somewhat 2-lipped; stamens 4, didynamous, staminode 1, ovary unilocular, placentae parietal, expanded and T-shaped in section, ovules numerous. Fruit a 2-valved drupe, terminated by a curved beak, exocarp fleshy, deciduous, endocarp woody, reticulate, dehiscent along both sutures, beak splitting into 2 sharp-pointed processes; seeds large, rugose-tuberculate.

TYPE: *Martynia* L.

A family of 3 or 4 genera and perhaps 20 species of the New World introduced into the Old World tropics. The family has been included in the

Pedaliaceae by some recent authors, but is considered distinct by J. W. Thieret (J. Arnold Arb. **58:** 25-39. 1977), and P.K. Bretting & S. Nilsson (Systematic Botany **13:** 51-99. 1988).

Martynia L., Sp. Pl. **2:** 618. 1753.

Annual herbs, viscid glandular pubescent. Leaves long petiolate, cordate at the base. Inflorescence terminal, racemose; calyx bibracteolate, campanulate, caducous; corolla funnelform campanulate; ovary 1-celled, ovules several. Fruit a 2-valved capsule, or drupe, beaked, the exocarp slightly fleshy, the endocarp woody, reticulate-ridged; seeds numerous, tuberculate.

TYPE: *Martynia annua* L.

A monospecific genus of tropical America.

Martynia annua L., Sp. Pl. **2:** 618. 1753. FIGURE 145.

Lectotype: Sloane Herb. #476 ex Hevly (Taxon **18:** 532. 1969).
Syn.: *Martynia diandra* Glox., Obs. Bot. 14. 1785, nom. superfl.

Herbs to 2 m tall, branched, viscid-pubescent. Leaves with petioles 10-17 cm long; blades ovate-orbicular, 8-15 × 7-16 cm, base cordate, apex rounded or acute, margin irregular, undulate to toothed, venation palmate from base, crispose glandular-hirsute below, glabrate above. Inflorescence to 8 cm long; pedicels 1-2 cm long, bracts ovate, 1 cm long; calyx 1.5 cm long; corolla 3-5 cm long, white to pink or with purple and yellow blotches. Capsule 2-3.5 cm long, slightly compressed, hooked beak 3-5 mm long, viscid-pubescent; seeds compressed, 1 cm long, black, shiny, but striate and foveolate.

GENERAL DISTRIBUTION: Greater Antilles, Central America.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe!, Dominica!, Martinique!, St. Vincent.

COMMON NAME: Tête de mort.

GESNERIACEAE

GESNERIACEAE Dumortier, Comment. Bot. 57. 1822.

Terrestrial or epiphytic herbs, or shrubs. Leaves opposite or alternate, membranaceous, succulent or coriaceous and often resinous, petiolate, estipulate. Flowers axillary, solitary or fascicled or in cymes or umbels, commonly bracteate; calyx campanulate below, 5-parted above or sepals free; corolla gamopetalous, campanulate or funnelform, frequently compressed, mostly bilabiate; stamens 5, adnate to base of corolla tube, one stamen commonly reduced to a staminode, the others didynamous, the anthers connate in pairs; disk present, annular or lobed; ovary superior to inferior, 1-locular, placentae 2, parietal, bifid; ovules numerous. Fruit capsular, dry or fleshy, or a berry, seeds small, fusiform, often striate.

TYPE: *Gesneria* L.

A family of 146 genera and 2400 species mostly in tropics of the Old World. For further information see Urban, Symb. Antill. **2:** 344-388. 1901; Leeuwenberg, Acta Bot. Neerl. **7:** 291-444. 1958, or Wiehler, Selbyana **6:** 1-129. 1983.

CULTIVATED TAXA

Drymonia serrulata (Jacq.) Mart. Reported from St. Vincent on the basis of Caley collections. Anderson stated in his Hortus he obtained material from Trinidad for the St. Vincent Botanic Garden from which Caley apparently obtained specimens.

Episcia cupreata (Hooker) Hanstein, and *E. fulgida* (Lindl.) Hooker (= *E. reptans* Mart.) are reported to be cultivated in pots in the French islands according to Fournet.

Gloxinia perennis (L.) Fritsch. Cultivated and naturalized in gardens, according to Fournet, but no specimens seen.

Kohleria bogotensis (Nicholson) Fritsch. Cultivated and naturalized in gardens in Guadeloupe, according to Fournet, but only one collection from Dominica seen.

Kohleria hirsuta (HBK) Regel. Cultivated in Guadeloupe, according to Fournet.

Saintpaulia ionantha Wendl., and *S.* × *kewensis* C.B. Clarke, reported by Fournet to be cultivated and rarely spontaneous in the French islands.

Sinningia speciosa (Lodd.) Hiern. Reported by Fournet to be cultivated in pots in the French islands.

KEY TO THE GENERA

1. Herbaceous, often succulent or woody terrestrial, epiphytic or climbing plants.
  2. Flowers borne singly in axils of leaves.
    3. Corolla strongly bilabiate, red; berry white, indehiscent; plants epiphytic .... *Columnea*
    3. Corolla lobes equal or unequal, not bilabiate.
      4. Calyx lobes bright red, cordate at base; corolla yellow; fleshy capsule white, dehiscent by 2 valves; plants epiphytic .... *Alloplectus*
      4. Calyx lobes green; erect or trailing terrestrial herbs.
        5. Corolla several times length of calyx, blue-purple; not spurred; leaves toothed .... *Achimenes*
        5. Corolla twice the calyx, yellow, spur present; leaves entire .... *Codonanthe*
  2. Flowers in umbellate clusters on short or long peduncles.
    6. Calyx lobes scarcely exceeding the tube; calyx bright red-orange, corolla yellow .... *Chrysothemis*
    6. Calyx lobes much longer than tube; calyx green; corolla pink to rose-purple .... *Nautilocalyx*
1. Woody erect shrubs or small trees.
  7. Leaves alternate; ovary inferior, fruit a capsule.
    8. Corolla yellow-orange, pubescent outside, stamens included or only slightly exserted, filaments bearded; leaves pubescent .... *Rhytidophyllum*
    8. Corolla red, glabrous; stamens long-exserted, filaments glabrous; leaves glabrous, commonly resinous .... *Gesneria*
  7. Leaves opposite; ovary superior, fruit a berry .... *Besleria*

ACHIMENES Persoon

Achimenes Persoon, Syn. Pl. **2:** 164. 1806, nom. cons.

Perennial terrestrial herbs with scaly underground rhizomes. Leaves opposite, subequal or anisophyllous, membranaceous. Inflorescence axillary, flowers solitary or several on common peduncle; calyx tube turbinate, lobes free; corolla salverform, limb actinomorphic or sub-bilabiate; filaments inserted near base of corolla tube; anthers oblong or quadrate, not confluent at apex; ovary inferior; disk annular, entire, glabrous. Capsule 2-valved.

TYPE: *Buchnera coccinea* Scop. = *Achimenes erecta* (Lam.) Fuchs.

A genus of 25 species of tropical America.

CULTIVATED TAXA

Achimenes coccinea Persoon (= *A. erecta* (Lam.) Fuchs) and *A. grandiflora* (Schiede) DC. are represented by older specimens of plants once cultivated in the area.

Achimenes longiflora DC., Prodr. **7:** 536, 1839. FIGURE 147.

Type: Mexico, Ic. Fl. Mex. ined. *pl. 719*, (G).

Herb to 30 cm tall. Leaves opposite, mostly anisophyllous, with petioles 2-4 mm long; blades ovate to lanceolate, 2-8.5 × 1.3-3 cm, base cuneate, apex acute to acuminate; margin sharply serrate; appressed pubescent. Inflorescence axillary, pedicels 4-7 mm long; calyx lobes linear-lanceolate, 4-8 mm long, ciliate; corolla tube 3.5-5 cm long, erect, not spurred, purple, lobes orbicular, 1.5 cm in diameter, erose, subactinomorphic; filaments glabrous. Fruit not seen.

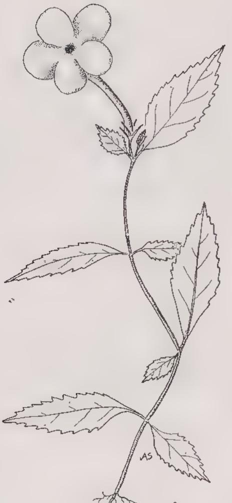
GENERAL DISTRIBUTION: Native of Central America, recorded as an escape elsewhere.

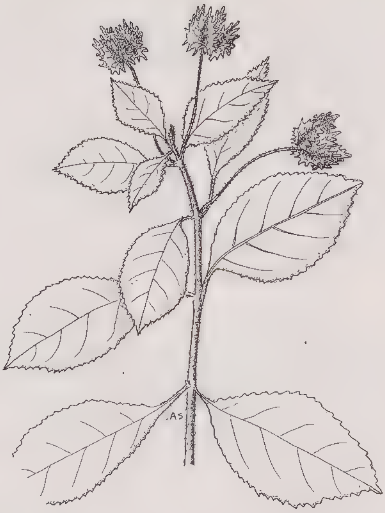
DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!.

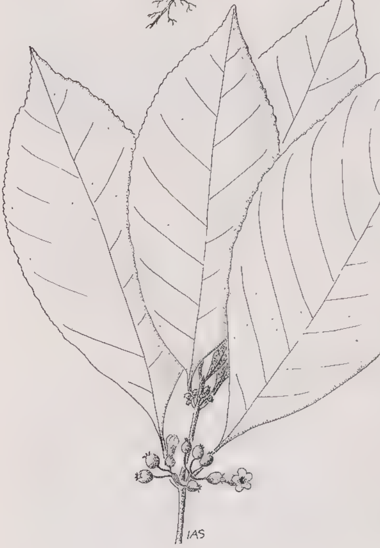
ALLOPLECTUS Martius

Alloplectus Martius, Nov. Gen. Sp. **3:** 53. 1829, nom. cons.

Epiphytic plants herbaceous or woody, climbing or pendent. Leaves opposite, anisophyllous, petiolate, blades elliptic. Flowers axillary, solitary, fasciculate or in pedunculate umbels or racemes; sepals 5, usually colored, free; corolla erect or horizontal, contracted in throat, limb narrow erect or spreading, lobes 5, subequal, usually entire; stamens 4, didynamous, included, filaments connate at base, anthers free, sometimes sagittate at base; disk of 5 separate glands; ovary superior, style included. Fruit a berrylike fleshy capsule, bivalved, the valves recurved on maturity; seeds fusiform or ellipsoid, longitudinally or obliquely striate, shining.







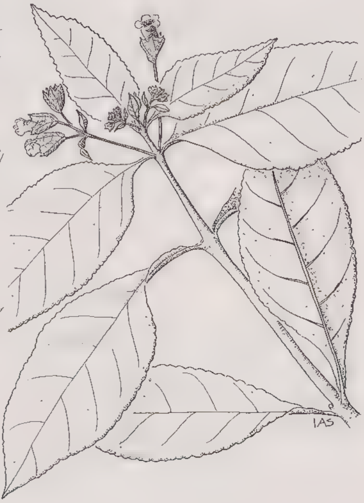


FIGURE 147 (upper left). *Achimenes longiflora*: × 0.3. FIGURE 148 (upper right). *Alloplectus cristatus*: × 0.3. FIGURE 149 (lower left). *Besleria lutea*: × 0.3. FIGURE 150 (lower right). *Chrysothemis pulchella*: × 0.3.

TYPE: *Alloplectus hispidus* (Kunth) C. Martius, a new type species proposed by Wiehler following the redefinition of the genus.

A genus of 65 species of tropical America.

NOTES: The record of *Alloplectus ambiguus* Urban, (or *Columnea ambigua* (Urban) B. Morley, *Ortholoma ambiguum* (Urban) Wiehler, or *Trichantha ambigua* (Urban) Wiehler), a Puerto Rican species given by Velez for Stehlé in Guadeloupe, can not be confirmed.

Alloplectus cristatus (L.) Martius, Nov. Gen. Sp. Pl. **3:** 57. 1829; **3:** 189. 1832.
FIGURE 148.

Basionym: *Besleria cristata* L., Sp. Pl. **2:** 619. 1753.
Type: Martinique, Plumier, Pl. Amer. *t. 50.* 1756.
Syn.: *Lophia phoenicea* Hamilton, Prodr. 47. 1825, nom. superfl.
Alloplectus cristatus var. *crenatus* Morton, Contr. U.S. Natl. Herb. **29:** 17. 1944. (Type: St. Vincent, *H. H. & G. W. Smith 147* (holotype, NY).)
Alloplectus cristatus var. *brevicalyx* Morton, Contr. U.S. Natl. Herb. **29:** 17. 1944. (Type: Dominica, *Lloyd 191* (holotype, NY).)
Alloplectus cristatus var. *typicus* Fournet, Fl. Ill. Phan. Guad. Mart. 1326. 1978.

Scandent epiphytic shrub, sparingly branched, stems, leaves and peduncles copiously tomentose with multicellular, uniseriate hairs or glabrate. Leaves of a pair subequal; petioles 1-2 mm long; blades ovate to elliptic, 2.8-8.5 × 1.6-4.5 cm, base cuneate, apex short-acuminate, margin serrate, concolorous. Flowers solitary, axillary, ebracteate; pedicels 4-7 cm long; calyx angulate, lobes erect, broadly ovate, slightly connate at base, deeply lacerate and sparingly strigose, red; corolla oblique in calyx, to 3 cm long, yellow, tube cylindric, gibbous at base, pubescent outside, lobes rounded, oblique, filaments glabrous. Capsule fleshy, 1-1.3 cm in diameter, bivalved, white.

GENERAL DISTRIBUTION: Lesser Antilles and the Guianas.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Wild fuchsia, crête à coq, fuchsia sauvage.

NOTES: The several varieties described by Morton, largely on characters of the calyx, clearly intergrade and are not recognized here.

BESLERIA L.

Besleria L., Sp. Pl. **2:** 619. 1753.

Terrestrial shrubs or small trees to 6 m tall. Leaves opposite, those of a pair mostly subequal, petiolate, blades moderately fleshy. Flowers in axillary sessile or pedunculate umbels, ebracteate; calyx colored or green, campanulate to cylindric, 5-toothed, or parted nearly to the base; corolla cylindric, spurred at base or not, mostly ventricose, yellow, orange or red, limb often oblique, actinomorphic or zygomorphic, lobes 5, equal, subequal or unequal; stamens 4, didynamous, included, filaments glabrous, flattened at base, anthers reniform, coherent, cells confluent at apex, divergent at base; disk annular; ovary superior, style included. Fruit indehiscent fleshy berry, brightly colored red; seeds ellipsoid, spirally striate, shiny.

TYPE: *Besleria lutea* L.

A genus of 150 species of tropical America. For further information see Morton, Contr. U.S. Natl. Herb. **26:** 395-474. 1939.

KEY TO THE SPECIES

1. Calyx lobes less than half as long as corolla tube.
   2. Leaf blades thick coriaceous, lightly crenate; pedicels stout; young parts copiously strigose with erect hairs .... *B. coriacea*
   2. Leaf blades membranaceous or chartaceous, serrate or crenulate; young parts sparsely pubescent or glabrous.
      3. Leaf blades mostly elliptic, crenulate .... *B. filipes*
      3. Leaf blades lanceolate, sharply serrate .... *B. lanceolata*
1. Calyx lobes half as long as corolla tube or more, usually acute or acuminate.
   4. Lobes of calyx free, rarely connate to middle.
      5. Common peduncle obsolete, pedicels aggregated in leaf axils; calyx densely silky pubescent .... *B. petiolaris*
      5. Common peduncle elongate, pedicels umbellate or subcorymbose; calyx sparsely pubescent .... *B. elongata*
   4. Calyx campanulate, the lobes 1/3 as long as tube .... *B. lutea*

Besleria coriacea Urban, Symb. Antill. **2:** 351. 1901.

Type: Not designated, see Notes.
Syn.: *Besleria lanceolata* Urban var. *coriacea* (Urban) Stehlé, Bull. Soc. Bot. Fr. **92:** 266. 1945.
Besleria lanceolata Urban var. *coriacea* forma *parvifolia* Stehlé, Bull. Soc. Bot. Fr. **92:** 266. 1945. (Type: Martinique, *H. & M. Stehlé 4422.*)
Besleria lanceolata Urban var. *coriacea* forma *hirsuta* Stehlé, Bull. Soc. Bot. Fr. **92:** 266. 1945. (Type: Martinique, *H. & M. Stehlé 5841.*)

Unbranched woody herb or small shrub to 1.3 m tall, young parts densely pubescent with reddish, erect, strigose hairs. Petioles stout, 0.7-2 cm long; blades oblong-lanceolate to lanceolate, 6-9 × 2-2.5 cm; base narrowed, apex acuminate; margins crenate; pilose below. Inflorescence axillary, peduncle obsolete, pedicels 1-3, 2.2-4 cm long; sepals slightly joined at the base, sepals ovate, 3-4 mm long and wide, obtuse or acute at apex, margins ciliate; corolla cylindric slightly curved, tube 1.4 mm long, glabrous, lobes suborbicular, erect, yellow; disk annular; ovary glabrous. Fruit ovoid, 6 mm long, 4.5 mm in diameter, orange.

GENERAL DISTRIBUTION: Endemic to Martinique.

NOTES: Urban in the original description suggested this taxon might be only a variety of *B. lanceolata* which he also described. Morton (l.c. 427) placed *B. coriacea* in the synonymy of *B. lanceolata* and commented that from the descriptions he was unable to separate the species. Stehlé cited Morton but treated *B. coriacea* as a variety and described additional formae. Fournet (p. 1323) accepted *B. coriacea* but incorrectly and without comment placed *B. filipes* in synonymy with it. Fournet's description applies to *B. filipes.* Urban cited a collection from Guadeloupe by Guyon and a specimen *Plée 770* from Martinique, both of which were in Berlin and are no longer extant. Duplicates of the *Plée* collection have not been located. From the recent collections studied it appears *B. coriacea* is restricted to Martinique.

Besleria elongata Urban, Symb. Antill. **2:** 353. 1901.

Type: St. Vincent, *H. H. & G. W. Smith 1275.*

Shrub to 1.3 m, stems pilose when young. Petioles 2-5 cm; blades elliptic-lanceolate, 12-30 × 5-10 cm, base cuneate, apex short acuminate, margin crenate or crenulate, pilose on nerves below. Inflorescence subcorymbose, peduncle 5-9 cm long; pedicels 1-1.5 cm long; calyx 8-10 mm, lobes free, narrowly ovate, long acuminate; corolla 15-20 mm long, glabrous, yellow or orange. Fruit ovoid, red.

General distribution: Known only from St. Vincent.

Besleria filipes Urban, Symb. Antill. **2:** 350. 1901.

Lectotype: Guadeloupe, *Duss 2376*, NY.

Syn.: *Besleria filipes* Urban forma *latior* Morton, Contr. U.S. Natl. Herb. **26:** 426. 1939. (Type: Dominica, *Fishlock 12* (holotype, NY).)

Besleria filipes Urban forma *glaberrima* Morton, Contr. U.S. Natl. Herb. **26:** 426. 1939. (Type: Dominica, *G. Proctor Cooper 47* (holotype, NY).)

Besleria filipes Urban forma *pilicaulis* Morton, Contr. U.S. Natl. Herb. **26:** 426. 1939. (Type: Dominica, *G. Proctor Cooper 157* (holotype, NY).)

Shrub to 2 m tall, sparsely appressed-strigose to glabrate. Petioles 1-4.5 cm long; blades oblanceolate to elliptic, 9-20 × 4.5-8.3 cm, base attenuate, apex acuminate, margin serrate, chartaceous, strigillose beneath on nerves. Inflorescence axillary, peduncle obsolete, pedicels few, elongate, 4.5-5 cm long, thickened at apex; calyx lobes ovate, 3-4.5 mm long, united near the base, glabrous except for ciliate margins; corolla erect, 1.3-1.8 mm long, slightly ventricose, glabrous above, lobes oblong, 4 × 6 mm, orange to yellow. Fruit succulent berry, orange to red.

General distribution: Endemic to the Lesser Antilles.

Distribution in Lesser Antilles: Guadeloupe, Dominica!.

Notes: Fournet (p. 1323) incorrectly reduces this to the synonymy of *B. coriacea* Urban. *Besleria filipes* appears very similar to *B. solanoides* H.B.K., a species of Central America, Venezuela and Colombia. Morton, (op. cit. 18) assigned a *Wright* collection from Jamaica (K) and an *Anderson* collection from Dominica (K) to *B. solanoides.* The presence of a subterminal mucro on the calyx lobe of *B. filipes* which Morton uses as a distinguishing character is not consistently present in the Lesser Antillean material seen.

Besleria lanceolata Urban, Symb. Antill. **2:** 351. 1901.

Type: Martinique, *Belanger 193* (lectotype, G).
Syn.: *Besleria lanceolata* Urban var. *genuina* Stehlé, Bull. Soc. Bot. Fr. **92:** 266. 1945.

Unbranched woody herb or shrub to 1.6 m tall. Petioles 1.3-2.5 cm long; blades lanceolate to oblong-lanceolate, 10-18 × 3-3.5 cm, base cuneate, apex acuminate, margin serrate, sparingly hirsute below. Inflorescence axillary, peduncles obsolete, pedicels 1-4, 3-4 cm long; calyx lobes nearly free, ovate but narrow, 5 mm long and 1.5 mm wide, obtuse, sparsely strigillose, ciliolate, midrib thickened into a short mucro; corolla 10-13 mm long, glabrous, lobes rounded, yellow. Fruit subglobose, 7-9 mm in diameter, dark red.

GENERAL DISTRIBUTION: Endemic to Guadeloupe.

COMMON NAME: Ortie grand bois.

Besleria lutea L. Sp. Pl. **2:** 619. 1753. FIGURE 149.

Type: Plumier, Pl. Amer. *t. 49, f. 1.*
Syn: *Besleria imrayi* Hooker, Bot. Mag. 104, *t. 6341.* 1878. (Type: Cultivated plant, Hort. Kew, from seed sent by Imray from Dominica (lectotype, K).)
Besleria lutea var. *alpestris* Urban, Symb. Antill. **2:** 348. 1901. (Type: Syntypes, Guadeloupe, *Funck & Schlim* 37; Martinique, *Duss 4542b.*)
Besleria lutea var. *brevipes* Urban, l.c. (Type: Syntypes, St. Lucia, *Duss 197, 326b.*)
Besleria lutea var. *imrayi* (Hooker) Urban, l.c.
Besleria lutea var. *intermedia* Urban, l.c. (Type: Dominica, *Duss 326d.*)
Besleria lutea var. *vincentina* Urban, l.c. (Type: St. Vincent, *H. H. & G. W. Smith 25.*)
Besleria lutea var. *vulgaris* Urban, l.c. 347. (Type: Many syntypes cited.)

Shrub or tree to 7 m tall. Leaves with petioles 5-35 mm long or subsessile; blades ovate, elliptic or oblong, 5.5-28 × 2-10 cm, base cuneate or rounded, apex acute to acuminate, margin serrate or serrulate, membranaceous or subcoriaceous, glabrous or strigillose. Inflorescence with peduncle to 4 mm or obsolete, pedicels 1-6, 2-4 cm long; calyx campanulate or urceolate, 6-10 mm long, lobes narrowly ovate, 2-2.5 mm long, often with short mucro, sparsely strigillose outside; corolla erect in calyx, tubular, contracted in throat, 15-20 mm long, glabrous, lobes subequal, rounded, entire, yellow; stamens included, filaments glabrous; style glabrous, disk annular. Berry ovoid, 5-8 mm in diameter, red.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Jamaica, Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Herbe à miel, herbe à pique bâtard, bois gleau.

NOTES: Morton (l.c. 457) suggested that further collections were necessary to decide on the validity of the many varieties described by Urban. Judging from the material seen, some collections from Dominica can be assigned to var. *imrayi* in having subsessile leaves with obtuse bases, and other material from higher elevations on several islands to var. *alpestris*, characterized by having coriaceous and smaller leaves with the veins impressed above and prominent below. These characteristics are not consistent and intermediates are found.

Besleria petiolaris (Griseb.) Urban, Symb. Antill. **2:** 352. 1901.

Basionym: *Collandra petiolaris* Griseb. Fl. Brit. W. Indian Is. 463. 1861.
Type: Dominica, *Imray 199* (holotype, K!).

Shrub to 1.5 m tall, stems densely pilose or subtomentose. Petioles 2-7 cm long; blades obovate-lanceolate or obovate-elliptic, 17-26 × 9-11 cm, base broadly cuneate, apex acuminate, margin slightly serrate, subcoriaceous, pilose beneath on veins. Inflorescence subsessile, pedicels 4-6 mm long, densely villose; calyx 9-12 mm, lobes free, lanceolate, acute to acuminate; corolla 12 mm long, yellow, glabrous. Berry red or orange.

GENERAL DISTRIBUTION: Endemic to Dominica.

CHRYSOTHEMIS Decaisne

Chrysothemis Decaisne, Rev. Hort. ser. 3, **3:** 242. 1849.

Terrestrial herb, with tubers. Leaves opposite, equal or subequal, petiolate. Inflorescence axillary, umbellate, shorter than leaves, several-flowered, peduncle with small leafy bracts; calyx campanulate, sepals united for most of length; corolla yellow or red, spotted, or lined on limb, trumpet-shaped, erect, not spurred, inside with ring of hairs near insertion of stamens, tube cylindric, limb spreading, lobes 5, rounded, entire; stamens 4, didynamous, included, filaments glabrous, anther cells parallel, staminode wanting; ovary superior, pubescent, style glabrous, stigma bilobed. Fruit capsule, included in calyx, globose, bivalved, obtuse at apex; seeds dark brown, shining, ellipsoid, obliquely striate, mostly 2 × long as wide, base apiculate.

TYPE: *Besleria pulchella* Donn ex Sims = *Chrysothemis pulchella* (Sims) Decaisne.

A genus of 7 species of tropical America.

Chrysothemis pulchella (Donn ex Sims) Decaisne, Rev. Hort. ser. 3, **3:** 242. 1849. FIGURE 150.

Basionym: *Besleria pulchella* Donn ex Sims, Bot. Mag. 28, *t. 1146.* 1808.
Type: Cultivated plant, *Woodford s.n.*, Springwell, Hertfordshire (BM).
Syn.: *Tussacia pulchella* (Donn ex Sims) Rchb. ex Walpers, Repert **6:** 740. 1847; Griseb. Fl. Brit. W. Indian Is. 463. 1861.

Fleshy herb to 90 cm tall. Petioles to 4 mm or subsessile; blades ovate, 11-21 × 5-11 cm, base cuneate and decurrent on petiole, apex acute, margin bluntly serrate. Inflorescence on peduncles 2.5-3 cm long, pedicels 2.5-3 cm long; calyx campanulate, 10-18 mm long, 5-angled, villose outside, lobes acuminate, dentate, orange-red; corolla yellow with red longitudinal lines on limb and in throat, 16-30 mm long, white sericeous outside. Capsule enclosed in calyx, globose, 6 mm in diameter, sparsely pubescent.

GENERAL DISTRIBUTION: Cuba, Jamaica, Trinidad, Panama, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, St. Vincent!, Grenada!.

COMMON NAMES: Herbe à miel.

CODONANTHE Hanstein

Codonanthe (C. Martius) Hanstein, Linnaea **26:** 199, 209. 1854.

Epiphytic rarely terrestrial herbs. Leaves opposite, equal, short petiolate, blades usually fleshy, entire or serrulate. Inflorescence axillary, flowers solitary or clustered, short pedicellate, bracts wanting; calyx of 5 sepals, these often unequal; corolla infundibuliform, horizontal in calyx, spurred or gibbose at base, often contracted above, lobes spreading 5, subequal, rounded; stamens 4, didynamous, included, filaments glabrous, anther cells divaricate, connective enlarged; ovary superior, style included, stigma bilobed, disk gland 1, dorsal, large. Fruit globose, berry; seeds often reddish, surrounded by white diaphanous aril, fusiform or ellipsoid, longitudinally or obliquely striate.

TYPE: *Codonanthe gracilis* (Mart.) Hanst.

A genus of 20 species of tropical America. For further information see Moore, Baileya **19:** 4-33. 1973.

Codonanthe caribaea Urban, Symb. Antill. **2:** 365. 1901.

Type: Guadeloupe, *Duss 3776.*

Perennial herb, stems repent. Petioles 4-6 mm long; blades of pair unequal, larger 5-7 × 3-4 cm, base rounded, apex short acuminate, margins entire, succulent, drying leathery. Flowers solitary, pedicels 5-8 mm long; calyx divided to base, sepals linear, entire, 10-12 mm long, 2-2.5 mm wide, green; corolla 22 mm long, yellow. Fruit ovate, 12-16 mm long, 10-12 mm in diameter, red; seeds with gelatinous covering.

GENERAL DISTRIBUTION: Endemic to Guadeloupe.

COLUMNEA L.

Columnea L. Sp. Pl. **2:** 638. 1753.

Epiphytic shrubs, subshrubs or herbs, climbing and erect or pendent, stems with adventitious roots. Leaves of a pair equal or anisophyllous; petioles present or blades sessile; blades variously shaped. Flowers axillary, solitary, or fasciculate; sepals free, 5, usually colored, acute to acuminate, often toothed or incised; corolla erect in calyx, often gibbose at base, limb actinomorphic to sub-bilabiate; stamens 4, didynamous, included or exserted, filaments connate at base, anther cells parallel; ovary superior, disk glands 1 to 5, mostly one large dorsal one, style mostly bilobed. Fruit globose berry; seeds ellipsoid or fusiform, shining, longitudinally or obliquely striate.

TYPE: *Columnea scandens* L.

A genus of 160 species of tropical America. For further information see Morley, Proc. Roy. Irish Acad. **74B:** 411-438. 1974, and Contr. Bot. Gard. Glasnevin **1:** 1-11. 1976.

Columnea scandens L., Sp. Pl. **2:** 638. 1753. FIGURE 151.

Type: Plumier, Pl. Amer. *t. 139, f. 1.*

Syn.: *Columnea jacquiniana* Presl, Abh. Böhm. Ges. Wiss. **5**(3): 576. 1845. (Type: Martinique, *Jacq. s.n.*, BM.)

Columnea speciosa Presl, l.c., Griseb. Fl. Brit. W. Indian Is. 464. 1861. (Type: St. Vincent, *Guilding s.n.*

Columnea scandens L. var. *vincentina* Morton, Contr. U.S. Natl. Herb. **29:** 14. 1944. (Type: St. Vincent, *Eggers 6698* (holotype, US).

Columnea scandens L. var. *scandens* Morton, Contr. U.S. Natl. Herb. **29:** 13. 1944.

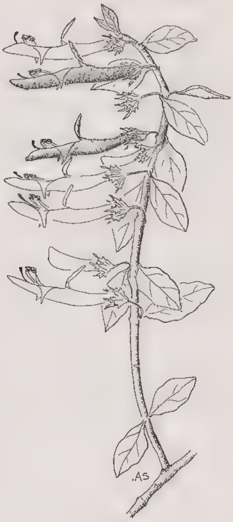
Columnea scandens L. f. *martinicensis* Stehlé, Bull. Soc. Bot. Fr. **109:** 33. 1962. (No type designated.)

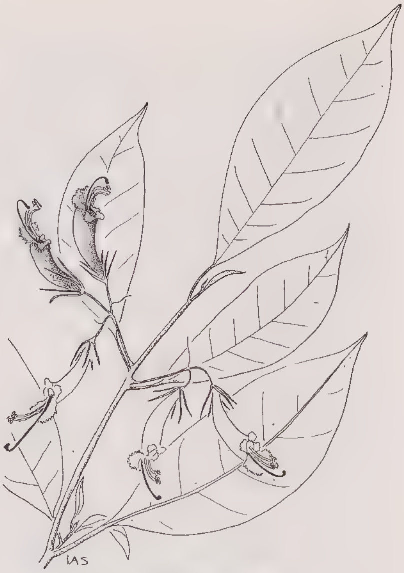
Columnea scandens L. f. *montserratensis* Stehlé, Bull. Soc. Bot. Fr. **109:** 33. 1962. (Syntypes: Montserrat, *Shafer 489, 546.*)

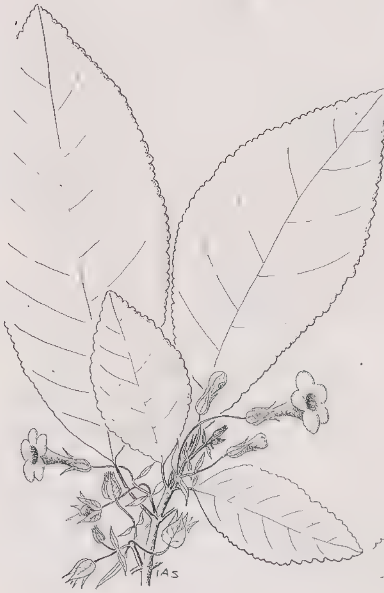
Columnea scandens L. var. *typica* Stehlé ex Fournet, Fl. Illus. Phan. Guad. Mart. 1327. 1978.

NOTES: *Columnea hirsuta* Sw., a Jamaican endemic, was reported from St. Kitts by Velez. The record can not be verified and is suspect. The record by Grisebach (Fl. Brit. W. Indian Is. 404. 1861) for Dominica as an *Imray* specimen (K) is *Columnea scandens.*

Epiphytic or terrestrial slightly woody herb, stems to 50 cm long, commonly rooting at the nodes. Leaves of a pair subequal, petioles 7-10 mm long; blades elliptic or oblong-elliptic, 1.5-6.5 × 1-3 cm, base cuneate, commonly asymmetrical, apex bluntly acute, margins serrate near the apex, entire below, strigose to tomentose both surfaces or glabrate. Flowers solitary or 2 or 3 together, peduncles 1-1.5 cm long, bracts lanceolate, acute, to 1.5 cm long, pedicels short; sepals ovate-lanceolate to linear, 1 cm long, green or reddish; corolla red, 4-8.5 cm long, conspicuously villose with reddish hairs,







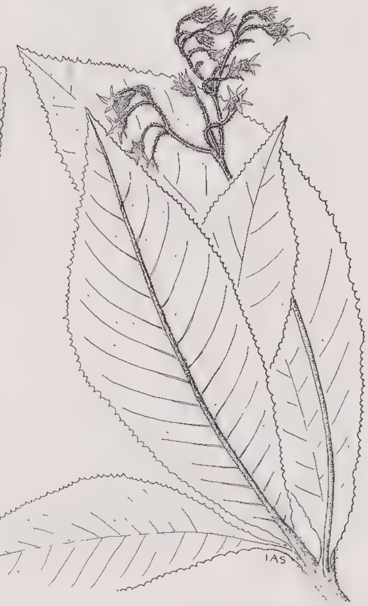


FIGURE 151 (upper left). *Columnea scandens*: × 0.3. FIGURE 152 (upper right). *Gesneria ventricosa*: × 0.3. FIGURE 153 (lower left). *Nautiocalyx melittifolius*: × 0.3. FIGURE 154 (lower right). *Rhytidophyllum caribaeum*: × 0.3.

limb strongly bilabiate, upper lobes erect, lower lobes reflexed; stamens exserted. Berry globose, to 1 cm in diameter, white.

General distribution: Greater Antilles, Trinidad, northern South America.

Distribution in Lesser Antilles: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

GESNERIA L.

Gesneria L., Sp. Pl. **2:** 612. 1753.

Shrubs, glabrous or pubescent, warty. Leaves alternate, frequently clustered at ends of stems, resinous or pubescent, coriaceous or membranaceous. Inflorescence axillary, pedunculate, umbellate or cymose, flowers pedicellate, commonly bracted; calyx tube obconic, 5- to 10-ribbed, smooth or wavy, 5-lobed, the lobes entire, equal; corolla tube ventricose or not, widened or not, limb subregular to 2-lipped, lobes erose or dentate; filaments inserted at base of corolla tube, not bearded, anthers exserted; ovary completely inferior. Capsule 2-valved, slightly ribbed or warty.

Lectotype: *Gesneria humilis* L.

A genus of 50 species of tropical America. For further information see Skog, Smithsonian Contr. Bot. **29:** 1-182. 1976.

Key to the Species

Flowers 2 to 4 in an umbel; peduncle, pedicel and calyx green; pedicels jointed; filaments glabrous . . . . *G. ventricosa*

Flowers numerous in 3 to 4-parted cymes, peduncles, pedicels and calyx reddish; pedicels not jointed; filaments sparsely pilose . . . . *G. cymosa*

Gesneria cymosa Urban, Symb. Antill. **2:** 372. 1901.

Lectotype: St. Vincent, *Eggers 662* (F).
Syn.: *Gesneria ventricosa* ssp. *cymosa* (Urban) L. Skog, Smith. Contr. Bot. **29:** 74. 1976.

Shrub to 4 m tall, buds and young leaves resinous. Petioles 1-1.5 cm long; blades obovate to elliptic-oblong, 8-15 × 2.5-7 cm, base narrowed, rarely rounded, apex acuminate, margin crenulate, warty. Inflorescence axillary, peduncles 7-15 cm long, 3- to 5-fid cymose, many-flowered; calyx lobes linear, 6-18 mm long; corolla ventricose, 3 cm long, red-orange; stamens long-exserted. Fruit 7 mm long, 6 mm in diameter, turbinate, strongly 5-ridged.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: St. Vincent!

Gesneria ventricosa Sw., Prodr. 90. 1788. FIGURE 152.

Lectotype: Montserrat, *Ryan s.n.* (BM).

Syn.: *Pentarhaphia longiflora* Lindley, Bot. Reg. 13, *t. 1110.* 1827, nom. superfl.
Conradia ventricosa (Sw.) Martius ex G. Don, Gen. Syst. **4:** 650. 1838.
Pentarhaphia lindleyana Decaisne, Ann. Sci. Nat. Bot. sér. 3, **6:** 103. 1846. (Type: Ind. Occ.. *Ponthieu s.n.* (holotype, G).)
Pentarhaphia montana Decaisne, Ann. Sci. Nat. Bot. sér. 3, **6:** 105. 1846. (Type: Guadeloupe, *l'Herminier s.n.* (holotype, P).)
Pentarhaphia florida Decaisne, Ann. Sci. Nat. Bot. sér. 3, **6:** 106, *t. 7.* 1846. (Type: Guadeloupe, *Beaupertuis s.n.* (lectotype, P).
Pentarhaphia herminieri Decaisne, Ann. Sci. Nat. Bot. sér. 3, **6:** 106. 1846. (Type: Guadeloupe, *l'Herminier s.n.* (holotype, P).
Pentarhaphia swartzii Decaisne, Ann. Sci. Nat. Bot. sér. 3, **6:** 103. 1846, nom. superfl.
Pentarhaphia longiflora Lindley var. *lindleyana* Duss, Fl. Phan. Ant. Fr. 430. 1897. (Type: Martinique, *Duss 329.*)
Gesneria ventricosa Sw. var. *ovata* Urban, Symb. Antill. **2:** 372. 1901. (Type: Saba, *Suringar s.n.*)
Gesneria ventricosa Sw. var. *obovata* Urban, Symb. Antill. **2:** 372. 1901, nom. illegit. citing *P. longiflora* var. *lindleyana* Duss.
Gesneria ventricosa Sw. f. *montana* (Decne.) Stehlé, Bull. Soc. Bot. Fr. **109:** 31. 1962.
Gesneria ventricosa Sw. f. *obovata* (Urban) Stehlé, Bull. Soc. Bot. Fr. **109:** 31. 1962.
Gesneria ventricosa Sw. f. *ovata* (Urban) Stehlé, Bull. Soc. Bot. Fr. **109:** 31. 1962.

Shrub to 3 m tall. Petioles to 4.5 cm; blades ovate, elliptic, or obovate, often falcate, 6-9 × 2.5-5 cm, base attenuate to rounded, apex acuminate, acute or obtuse, margin coarsely and irregularly dentate, glabrous or warty and resinous on both surfaces. Inflorescence axillary, peduncles to 16 cm long, 3-5 flowered; calyx lobes linear-subulate, 5-23 mm long; corolla scarlet to orange-red, 3-4 cm long, ventricose, glabrous; stamens long exserted. Capsule turbinate to spherical.

GENERAL DISTRIBUTION: St. Croix, Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

COMMON NAMES: Wild frangipani, gueule-de-loup montagne.

NAUTILOCALYX Linden

Nautilocalyx (Linden) Hanstein, Linnaea **26:** 181, 206-7. 1854, emend. Wiehler, Selbyana **5:** 29. 1978.

Terrestrial herbs with soft juicy unbranched stems. Leaves opposite, those of a pair subequal, petiolate; blades toothed. Inflorescence axillary, sessile or pedunculate; calyx irregular, lobes free; corolla horizontal in calyx, infundibuliform, tube compressed, spurred at the base or ventricose, contracted above, lobes subequal, spreading; stamens included, free or connate in pairs; ovary superior, villose; disk annular with posterior portion enlarged. Fruit capsular, subglobose.

TYPE: *Nautilocalyx hastatus* Linden ex Hanstein, nom. illegit. = *Centrosolenia bracteatus* Planchon = *Nautilocalyx bracteatus* (Planchon) Sprague. See Morton, Taxon **21:** 675. 1972.

A genus of 50 species of tropical America.

Nautilocalyx melittifolius (L.) Wiehler, Phytologia **27:** 307. 1973.
FIGURE 153.

Basionym: *Besleria melittifolia* L., Sp. Pl. **2:** 619. 1753.
Type: Plum., Pl. Amer. *t. 48.*
Syn.: *Episcia melittifolia* (L.) Mart., Nov. Gen. Sp. **3:** 42. 1829.
Besleria guadalupensis DC., Prodr. **7:** 538. 1839. (Syntypes: Guadeloupe, *L'Herminier* and Perrottet (G-DC).)
Episcia guadalupensis (DC.) Hanst. Linnaea **34:** 345. 1865.
Episcia melittifolia (L.) Mart. var. *typica* Urban, Symb. Antill. **2:** 354. 1901.
Episcia melittifolia (L.) Mart. var. *guadalupensis* (DC.) Urban, Symb. Antill. **2:** 354. 1901.
Episcia melittiflora Mart. f. *typica* (Urban) Stehlé, Bull. Soc. Bot. Fr. **109:** 31. 1962.
Episcia melittifolia (L.) Mart. f. *typica* (Urban) Stehlé, Bull. Soc. Bot. Fr. **109:** 31. 1962.
Episcia melittifolia (L.) Mart. f. *guadeloupensis* (DC.) Stehlé, Bull Soc. Bot. Fr. **109:** 32. 1962.
Nautilocalyx melittifolius (L.) Wiehler var. *typicus* (Urban) Fournet, Fl. Ill. Phan. Guad. Mart. 1325. 1978.
Nautilocalyx melittifolius (L.) Wiehler var. *guadalupensis* (DC.) Fournet, Fl. Ill. Phan. Guad. Mart. 1325. 1978; comb. illegit., no basionym cited.

Terrestrial succulent herbs, to 30 cm tall, sprawling and rooting at the nodes or erect, all parts pubescent with multicellular, uniseriate hairs. Leaves opposite, subequal; petioles 1-8 cm; blades ovate to elliptic, 4-27 × 2-13, base cuneate to rounded, apex acuminate, acute to obtuse, often asymmetrical, margin crenate, to nearly entire. Flowers axillary, peduncles 1-4 cm long, flowers 1 to 12 in umbel or cyme, pedicels to 4 cm; sepals unequal, connate at base, lanceolate-ovate, long-acuminate, 1-2 × 0.3-0.7 cm, entire or serrate, green; corolla 2-3 cm long, cerise, crimson, pink or purple, with short, obtuse spur, not contracted in throat, lobes rounded, flaring; stamens included; ovary hirsute, disk gland bilobed. Capsule subglobose, 6-8 mm in diameter; seeds dark brown.

GENERAL DISTRIBUTION: Trinidad, Tobago.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica, Martinique!, St. Lucia!, St. Vincent!, Grenada.

COMMON NAMES: Herbe à miel.

RHYTIDOPHYLLUM C. Martius

Rhytidophyllum C. Martius, Nov. Gen. Sp. **3:** 38. 1829.

Shrubs or small trees. Leaves alternate, short-petioled. Flowers axillary in long-peduncled cymose panicles; calyx tube hemispheric, not ribbed, adnate to ovary, lobes short; corolla narrowly campanulate, curved, limb oblique, 5-lobed; stamens borne on the corolla above the base, included or scarcely exserted; anthers coherent, cells parallel; disk annular; style slender. Capsule 2-valved.

LECTOTYPE: *Gesneria tomentosa* L. = *Rhytidophyllum tomentosum* (L.) C. Martius.

A genus of 20 species of the Greater Antilles. Wiehler (Selbyana **6:** 198-201. 1983) considers *Rhytidophyllum* as a synonym of *Gesneria* L.

Rhytidophyllum caribaeum Urban, Symb. Antill. **2:** 386. 1900.
FIGURE 154.

Lectotype: Grenada, *Eggers 6126.*

Shrub to 1 m tall. Petioles 0.5-2 cm; blades elliptic to oblong, 15-50 × 5-13 cm, base narrowed, apex long-acuminate, margin irregularly single or doubly serrate, scabrous above, brown-pilose below. Inflorescence with peduncle 15-35 cm long; pedicels 1-3 cm; calyx lobes oblong to lanceolate, 4-7 mm long; corolla 15-20 mm long, cylindric below, cyathiform-ampliate above, yellow, cream or orange with purple lines inside, densely pubescent outside. Capsule turbinate 7-8 mm long, 5-6 mm in diameter, striate or bisulcate.

GENERAL DISTRIBUTION: Endemic to Grenada.

NOTES: The Caley specimen from St. Vincent cited by Urban was probably derived from the plant Anderson introduced to St. Vincent from Grenada. It has not been recollected on St. Vincent.

LENTIBULARIACEAE

LENTIBULARIACEAE L. C. Richard *in* Poiteau & Turpin, Fl. Paris **1:** 26. 1808.

Herbs, annual or perennial, aquatic, terrestrial or epiphytic with special vegetative organs for capturing insects or special storage tubers borne below ground. Photosynthetic organs rosulate or absent, exstipulate. Inflorescence terminal, racemose, often scapose. Flowers perfect, zygomorphic, calyx deeply parted, corolla gamopetalous, 2-lipped, usually spurred, upper lip entire or 2-lobed, lower lip with gibbous palate, subentire to 3-lobed; stamens 2, inserted at base of corolla; ovary superior, 1-locular, placenta free, central or basal, ovules usually numerous. Fruits circumscissile, longitudinally valvate or indehiscent capsules, seeds mostly numerous.

TYPE: *Lentibularia* Séguier, nom. illeg. = *Utricularia* L.

A family of 4 genera and 250 species of temperate and tropical areas.

UTRICULARIA L.

Utricularia L., Sp. Pl. **1:** 18. 1753.

Herbs, annual or perennial, aquatic, terrestrial or epiphytic. Stolons and trap branches white, storage tubers white or translucent, subterranean. Photosynthetic organs scalelike to well-developed leaflike structures with petioles and blades, or dissected into filiform segments. Inflorescence racemose, pedunculate, bracteate or not; calyx 2-lobed, commonly accrescent; corolla usually spurred, yellow or white and violet, upper lip entire or ± 2-lobed, lower lip entire or 2- 5-lobed; stamens short, filaments winged; ovary globose, ovules 2 to many. Capsules globose, circumscissile, longitudinally dehiscent or indehiscent; seeds 1-many.

TYPE: *Utricularia vulgaris* L.

A genus of about 180 species, mostly tropical, aquatic or found in wet or damp places.

NOTES: The morphology of this group is unusual. True leaves in the normal sense are not present; the term ''photosynthetic organs'' as adopted by Peter Taylor is used here. For further information see Taylor's treatment for the Flora of Panama (Ann. Missouri Bot. Gard. **63:** 565-580. 1976.) From this our treatment is derived.

KEY TO THE SPECIES

1. Epiphytic herbs, photosynthetic organs leaflike; corolla white tinged with purple or lilac.
    2. Photosynthetic organs 1-2 cm long, 2-4 mm wide; inflorescence 2-4 cm long, corolla 10-20 mm long, lower lobe to 1 cm wide, deeply 3-lobed .... *U. jamesoniana*
    2. Photosynthetic organs 3-9 × 1.2-3.5 cm; inflorescence 15-30 cm long, corolla 30-50 mm long, lower lip to 5 cm wide, entire, emarginate or shallowly 3-crenate .... *U. alpina*
1. Aquatic herbs or plants in damp places, flowers yellow.
    3. Terrestrial plants in damp places, bracts medifixed, flowers usually 6 to 10, spur 2 to 3 times as long as lower lip .... *U. pusilla*
    3. Aquatic plants, bracts basifixed, flowers 2 or 4, spur equal to lower lip .... *U. obtusa*

Utricularia alpina Jacq., Enum. Pl. Carib. 11. 1760. FIGURE 155.

Type: None indicated.

Syn. *Utricularia montana* Jacq., Select. Stirp. Amer. Hist. 7, *t. 6.* Type: Based on *U. alpina.*
Utricularia grandiflora Pers., Syn. Pl. **1:** 18. 1805, nom. illeg. cited *U. montana* Jacq.

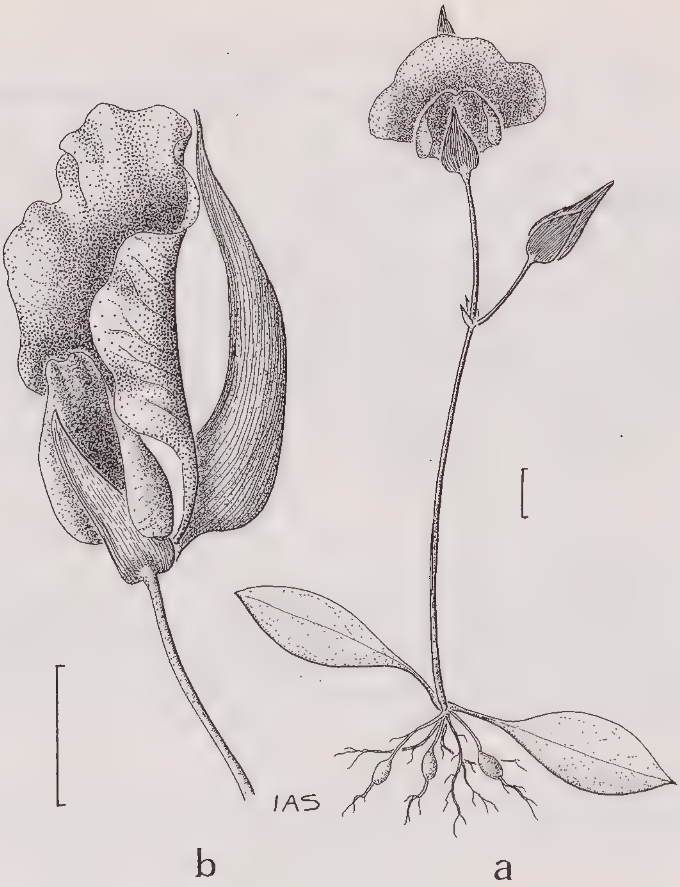


Figure 155. *Utricularia alpina*: a, flowering plant with tuberous roots; b, flower, side view. Bar = 1 cm.

Perennial, epiphytic herbs; stolons radiating from base, often swollen to form ellipsoid white or translucent tubers. Traps also born on stolons, ovoid, stalked, to 1 mm long. Photosynthetic organs leaflike, 1 to 4, petioles 2-5 cm, blades narrowly obovate-elliptic to elliptic, 3-9 × 1.2-3.5 cm, base long-decurrent on petiole, apex obtuse to acute, slightly fleshy, glabrous. Inflorescence 10-35 cm long, 1- to 4-flowered, bracts linear-lanceolate, 5-7 mm long, pedicels 2-2.5 cm, calyx lobes purple-brown, subequal, ovate, 1-2 cm long, 1.2-2 cm wide, apex obtuse, base subcordate, corolla white tinged with purple, with yellow palate, 4-6 cm long, upper lip transversely oblong, 2 to 3 times as wide as long, lower lip to 5 cm wide, fan-shaped, spur subulate, acute, curved upward. Capsule ovoid, 10 mm long, dehiscing by single abaxial longitudinal slit, seeds numerous, cylindrical-fusiform.

GENERAL DISTRIBUTION: Nicaragua, Panama, Colombia, Venezuela, Guyana.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Utricularia jamesoniana Oliver, J. Proc. Linn. Soc. Bot. **4:** 169, *t. 1, f. 1.* 1860.

Type: Ecuador, *Jameson 1* (holotype, K).
Syn.: *Utricularia schimperi* Schenck. *in* Pringsh. Wiss. Bot. **18:** 230. 1887. (Type: Dominica, *A. F. W. Schimper s.n.*, B, destroyed.)

Perennial, epiphytic herb; stolons bearing traps and fusiform tubers. Photosynthetic organs leaflike, 2-3, petiole 1-3 mm long, blades obovate-spatulate, 1-1.5 × 0.2-0.4 cm, base narrowed, apex acute, glabrous. Inflorescence 1- to 3-flowered, 2-5 cm long, bracts narrowly elliptic, 4-7 mm long; pedicels 5-10 mm; calyx lobes broadly ovate, 4-12 mm long; base truncate or subcordate, apex rounded; corolla 10-20 mm long, white tinged with violet, margins and part of spur densely stipitate-glandular, upper lip orbicular, spur 2 to 4 times length of lower lip, subulate and curved upward, lower lip slightly larger, to 1 cm wide, deeply 3-lobed. Capsule ovoid, ca. 4 mm long; seeds numerous, narrowly cylindrical.

GENERAL DISTRIBUTION: Hispaniola, Guatemala to Peru and east to Guyana.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica, Martinique!.

Utricularia obtusa Swartz, Prodr. 14. 1788.

Type: Jamaica, *Swartz s.n.* (holotype, S).

Perennial aquatic herbs, stolons fasciculate, to 20 cm, photosynthetic organs numerous, alternate, 2 cm long, dissected into capillary segments, traps obliquely ovoid, 1-1.5 mm long. Inflorescence erect, mostly 5-10 cm long, 2- to 4-flowered, bracts ovate, basifixed, ca. 1 mm long; pedicels 5-15 mm long; calyx lobes similar, ovate, 2-3 mm long; corolla yellow with orange or brownish markings on palate, mostly 10-15 mm long, upper lip broadly ovate, obscurely 3-crenate, lower lip slightly smaller, orbicular, entire, spur subulate, straight or curved, about as long as lower lip. Capsule subglobose, 2-4 mm in diameter, dehiscing into 2 lateral valves; seeds lenticular, 1 mm wide, with pronounced hilum and irregular corky wing.

GENERAL DISTRIBUTION: Central America, South America, and tropical Africa.

DISTRIBUTION IN LESSER ANTILLES: St. Barts, Antigua, Guadeloupe, Marie Galante, Martinique, Grenada!.

NOTES: Taylor (Kew Bull. **18:** 197. 1934) considered *U. obtusa* Sw. a synonymn of *U. gibba* L. ssp. *gibba* but subsequently has recognized this as "not L., Sp. Pl. 18. 1753." No discussion of this change of opinion has been located.

Utricularia pusilla Vahl, Enum. Pl. **1:** 202. 1804.

Type: Guyana, *Richard s.n.* (holotype, C).

Annual terrestrial herb, stolons subterranean, bearing traps. Photosynthetic organs obovate-spathulate, to 10 × 3 mm, traps obliquely ovoid, stalked, 0.5 mm long. Inflorescence to 7 cm long, 3- to 15- flowered, bracts peltate, orbicular; pedicels 1.5-2.5 cm; calyx lobes ovate, unequal, lower lip slightly larger; corolla yellow, to 6 mm long, upper lip narrowly ovate, entire, lower lip descending, 3-lobed, palate gibbous, spur subulate, 2 to 3 times length of lower lip. Capsule globose, 1.5 mm long, seeds ovoid 0.35 mm long with 11 longitudinal striations.

General distribution: Mexico south to Argentina.

Distribution in Lesser Antilles: Dominica!.

ACANTHACEAE

ACANTHACEAE A. L. Juss., Gen. Pl. 102. 1789.

Herbs, shrubs, small trees or vines; occasionally spiny. Leaves estipulate, opposite, simple, commonly with cystoliths. Flowers irregular or nearly regular, perfect, borne in spikes, racemes, panicles or rarely singly, often subtended by a bract and 2 bracteoles, these conspicuous, ornamented or plain, tightly overlapping or loose and spreading; calyx symsepalous, persistent, usually equally or unequally 5-lobed; corolla gamopetalous, 2-lobed, rarely 1-lobed, sometimes nearly regularly 5-lobed, tube cylindrical or flattened, ampliate or salverform, stamens attached to corolla tube, 4 and didynamous or 2 with 2 staminodes, anther sacs 2 or 1, approximate or separate; ovary superior, 2-celled, ovules 2 to 10 in each locule, style filiform, stigmas 1 or 2; fruit a loculicidally dehiscent capsule, sometimes explosively dehiscent, 2-celled, 2-valved, seeds usually flat and rounded, generally borne on retinacula (hook-shaped funicles which become rigid), testa smooth or roughened, often hygroscopic developing plates or threads, or becoming mucilaginous when wet.

Type: *Acanthus* L.

A family of 250 genera and approximately 2500 species widespread in the tropics and with some taxa in temperate areas. For a recent family treatment with valuable nomenclature notes see R. M. Barker, J. Adelaide Bot. Gard. **9:** 1-286. 1986.

KEY TO THE GENERA OF NATIVE AND COMMONLY CULTIVATED TAXA

1. Corolla bilabiate.
    2. Plants with axillary spines; flowers axillary, pedicelled.
        3. Spines from second axillary bud, unbranched; leaves less than 1 cm; corolla 1-1.5 cm long, lilac to whitish in color .... *Oplonia*
        3. Spines from first axillary bud, 2 to 6-branched; leaves 5-12 cm long; corolla 2-4 cm long, yellow-orange .... *Barleria*
    2. Axillary spines wanting.
        4. Bracts broad, generally overlapping.
            5. Corolla bright red; inflorescence terminal, lower lip shorter than tube; bracts ovate, sessile .... *Pachystachya*
            5. Corolla pale rose; inflorescence axillary, flowers in verticels subtended by 1 petiolate bract and 2 setaceous bracteoles .... *Dicliptera*
        4. Bracts linear to oblanceolate or spatulate.
            6. Leaves variegated with white; corolla deep red; cultivated .... *Graptophyllum pictum* (L.) Griff.
            6. Leaves not variegated.
                7. Racemes axillary and terminal; flowers secund, erect; fruit 12-seeded .... *Andrographis*
                7. Flowers in terminal panicles or bracteated spikes, flowers not secund, at most short-pedicelled; seeds 4.
                    8. Bracts bristle-tipped; inflorescence dense, calyx segments 5, dissimilar; flowers small .... *Teliostachya*
                    8. Bracts not bristle-tipped; inflorescence loose, calyx segments subequal.
                        9. Leaves 10 cm long or more; flowers white or purple, staminodes present .... *Odontonema*
                        9. Leaves smaller; flowers red, pink or white, staminodes wanting .... *Justicia*
1. Corolla salverform, infundibuliform, campanulate or tubular.
    10. Corolla infundibuliform, campanulate or tubular.
        11. Mostly vines; flowers solitary or racemose, subtended by large bracts; fruit beaked, seeds globular, hollow below from papiliform funicles .... *Thunbergia*
        11. Herbs or shrubs; fruit clavate, seeds mostly flattened on hook-like retinacula.
            12. Low or sprawling herbs, bracts linear.
                13. Inflorescence racemose, flowers secund, pale yellow to pale lavender; seeds without mucous hairs, rugose or tuberculate .... *Asystasia*
                13. Inflorescence cymose or paniculate, flowers deep lavender; seeds with mucous hairs .... *Ruellia*
            12. Stout herbs or shrubs, bracts of inflorescence broad, 2 cm or more wide, red; corolla tubular with small recurved lobes, yellow, fertile stamens 2, exserted, cultivated ..... *Sanchezia speciosa* Leonard
    10. Corolla salverform.
        14. Inflorescence conspicuously imbricately bracted.
            15. Flowers deep blue; bracts apiculate, with white patches in a green network of veins .... *Eranthemum pulchellum* Andr.
            15. Flowers white; bracts not as above.

16. Bracts orange, ovate-oblong, aristate; flowers salverform but asymmetric, lobes directed downward; cultivated.......... .... *Crossandra infundibuliformis* (L.) Nees

16. Bracts green, broadly ovate, not aristate.......... *Blechum*

14. Bracts linear, not overlapping.

17. Subacaulescent herbs almost forming rosettes; inflorescence scapose, spicate .... *Stenandrium*

17. Shrubs; inflorescence terminal, paniculate; leaves often variegated or colored; cultivated...................... *Pseuderanthemum*

CULTIVATED TAXA

Aphelandra pulcherrima HBK (as *A. pectinata* Willd.) Reported in cultivation in Martinique and St. Vincent by Lindau.

Bravaisia integerrima (Spreng.) Standl. Once cultivated in Martinique and reported as *Onychacanthus speciosus* Ort. and *B. floribunda* A. DC.

Crossandra infundibuliformis (L.) Nees (as *C. undulifolia* Salisb.) Currently in cultivation on Montserrat and Grenada.

Diflugossa colorata (Nees) Bremek. Cultivated at Martinique as *Strobilanthes coloratus* (Nees) T. Anders. and in Barbados.

Drejerella mirabilioides (Lam.) Lindau. Reported by Lindau as *Beleperone lamarckiana* Nees from Martinique on the basis of an Isert collection.

Dyschoriste thunbergiiflora (S. Moore) Lindau. Cultivated on St. Vincent and Barbados.

Eranthemum indicum Clarke. Cultivated on Barbados.

Eranthemum pulchellum Andr. Currently cultivated on St. Kitts, Montserrat, Guadeloupe, St. Lucia, St. Vincent and Barbados.

Fittonia albivenis (Lindl. ex Veitch) Brummitt. Cultivated on Montserrat and Barbados as *F. argyoneura.*

Graptophyllum pictum (L.) Griff. as *G. hortense* Nees. In cultivation on St. Kitts, Guadeloupe, Martinique, St. Lucia, St. Vincent and Barbados.

Hemigraphis alternata (Burm.f.) T. Anders. as *H. colorata* (Blume) Hall. Reported from Montserrat, Guadeloupe, Martinique and St. Lucia.

Hypoestes phyllostachys Bak. or *H. sanguinolenta* Hooker. Reported from Guadeloupe.

Jacobinia spicigera Bailey or *J. magnifica* Lindau or *J. carnea* Nicholson. Reported by Velez from Grenada & by Fournet from Martinique.

Pachystachys spicata (Ruíz & Pavón) Wassh. as *Pachystachys riedeliana* Nees or *P. coccinea* (Aubl.) Nees. Reported from Guadeloupe, Dominica, Martinique, and St. Vincent.

Phlogacanthus turgidus (Fua) Lindau. Once cultivated in Martinique (*Duss 1996*).

Ruspolia hypocrateriformis (Vahl) Milne-Redhead. Cultivated on St. Martin.

Sanchezia speciosa Leonard. Under cultivation on Montserrat, Guadeloupe and Barbados.

ANDROGRAPHIS Wall.

Andrographis Wall. ex Nees, *in* Wall., Pl. Asiat. Rar. **3:** 77, 116. 1832.

Diffuse herbs. Leaves with cystoliths. Inflorescence cymose to paniculate, bracts and bracteoles small. Flowers small; calyx equally 5-parted; corolla tube short, incurved above, ampliate, limb bilabiate, upper lip 3-lobed, lower lip only notched; stamens 2, filaments pubescent, anthers bilocular, locule equal, muticous. Capsule oblong to linear, stipitate, seeds 4 to 12, flat, ellipsoidal, rugose, with U-shaped groove, retinacula swollen in the middle.

TYPE: *Andrographis paniculata* (Burm. f.) Wallich ex Nees.

A genus of 18 species of tropical Asia, introduced elsewhere.

Andrographis paniculata (Burm. f.) Wall. ex Nees, *in* Wall. Pl. Asiat. Rar. **3:** 116. 1832. FIGURE: 156.

Basionym: *Justicia paniculata* Burm. f., Fl. Ind. 9. 1768.
Type: "In Malabaria et Zeylona," *Burman.*

Annual or perennial herb, often branched, to 1 m tall. Leaves lanceolate, or ovate, 6-10 × 1.5-2.4 cm, base long cuneate, apex acuminate, glabrous. Panicle terminal, branches racemose, pedicels erect, 1-5 mm long, bracts and bracteoles small, 1-2 mm long; calyx segments 2-4 mm long, with gland-tipped hairs; corolla tube 5-6 mm, white with purple markings, with glandular and eglandular hairs, lower lip entire or slightly 2-lobed, upper lip recurved; stamens 2, inserted near top of tube, filaments pilose, anthers purple, pilose at base. Capsule oblong-fusiform, 16-19 mm long, sparsely glandular pubescent; seeds 6 in each valve, rectangular, 1.8-2.0 × 1.4-1.5 mm, aveolate, with two deep furrows.

GENERAL DISTRIBUTION: Tropical Asia, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, St. Vincent!, the Grenadines!, Barbados!.

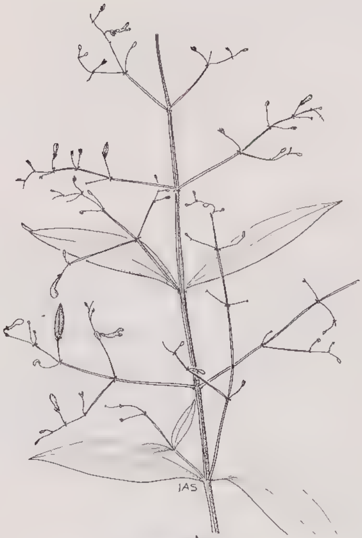
ASYSTASIA Blume

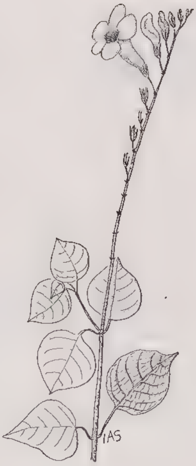
Asystasia Blume, Bijdr. 796. 1826.

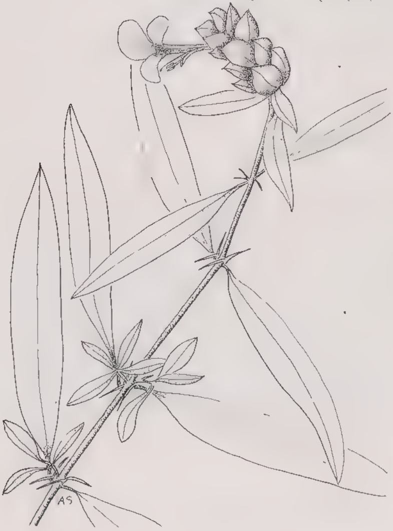
Perennial herbs, stems procumbent or scrambling, pubescent. Leaves ovate, entire, cystoliths present. Inflorescence terminal, simple or branched racemes, often unilateral, or secund. Flowers solitary or glomerate, bracts linear, bracteoles minute; calyx lobes 5, linear-setaceous, subequal; corolla infundibuliform, tube straight or curved, ampliate to campanulate, lobes 5, subequal, imbricate; stamens 4, didynamous, included, anthers 2-loculate, locules parallel, equal, muticous at base or mucronate; style subulate, stigma obtuse, ovary biloculed, 2 ovules per locule. Capsule stipitate, elliptic, pubescent; seeds 2 to 4 or less, ovate, compressed, orbicular to angled, rugose or tuberculate, glabrous.

TYPE: *Asystasia intrusa* (Forsskal) Blume, but this questioned by Barker (1986).

A genus of about 40 species of the Old World tropics.







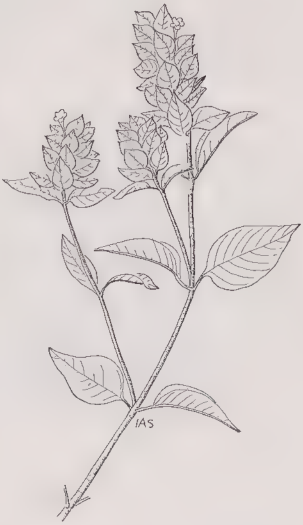


FIGURE 156 (upper left). *Andrographis paniculata*: × 0.3. FIGURE 157 (upper right). *Asystasia gangetica*: × 0.3. FIGURE 158 (lower left). *Barleria lupulina*: × 0.3. FIGURE 159 (lower right). *Blechum pyramidatum*: × 0.3.

Asystasia gangetica (L.) T. Anders., *in* Thwaites, Enum. Pl. Zeyl. 235. 1860.
FIGURE: 157.

Basionym: *Justicia gangetica* L., Cent. Pl. **2:** 3. 1756.
Type: India. LINN 28.26, 28.27 syntypes.

Scrambling or sprawling herb with branches to 1 m or more. Petioles to 11 mm long; blades ovate, 3.5-7.5 × 2-3.5 cm, base rounded to slightly decurrent on petiole, apex acuminate, with gland-tipped hairs mixed with long-pilose pubescence. Inflorescence terminal, to 13 cm long, pedicels 2 mm long, bracts and bracteoles ovate, 1.5 mm long, pilose with glandular hairs, ciliate; sepals free, valvate, 8 mm long; corolla 3.5-4 cm long, white, yellow, variously blended to pink or purple, lobes 10 mm long and broad; stamens included, filaments glandular pubescent, thecae mucronulate apically and basally. Capsule clavate, 1.7-2.5 cm long, cuneate or stipitate at the base, apex acuminate, pubescent; seeds 2 or 4, oval, 3-5 × 2.4 mm, flattened, irregularly angled, rugose, retinacula flattened and enlarged at the base.

GENERAL DISTRIBUTION: Native of Asia, now a pantropical weed.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

NOTES: Populations of pure white or yellow colors are known, but evidently these cross with the purplish flowers and produce mixed or diffused color forms. *A. chelonioides* Nees reported as once cultivated on Martinique (*Duss 411*).

BARLERIA L.

Barleria L., Sp. Pl. **1:** 636. 1753.

Shrubs or herbs, with or without axillary spines which are developed from the first axillary bud. Leaves petiolate to subsessile, cystoliths present on both surfaces. Flowers commonly in densely bracted terminal spikes; calyx deeply 4-cleft, 2 of the segments larger than the others; corolla tube as long as limb or longer, lobes 5, rounded, spreading; stamens 4, didynamous, borne at base of corolla tube, unequal, exserted; ovules 2 in each locule. Capsule ovoid to oblong, long-pointed; seeds 2, flattened, ovate or suborbicular, with appressed hairs which are mucilaginous on wetting.

LECTOTYPE: *Barleria prionitis* L. designated by Britton & Wilson (Bot. Porto Rico, 1925) but *B. cristata* L. credited by ING to Hitchcock & Green (1929).

A genus of 250 species of tropical areas.

CULTIVATED TAXA

Barleria cristata L. is currently cultivated on Montserrat, St. Vincent and Barbados. *Barleria strigosa* Willd. was once cultivated on Martinique (*Duss 1993.*)

KEY TO THE SPECIES

Leaves narrowly oblong, acute to apiculate; bracts broadly obovate, colored above, all imbricate, aristulate, with cup-shaped glands . . . . *B. lupulina*

Leaves elliptic, apex long acuminate; bracts lanceolate, green, separate below, overlapping above, more or less spinescent, without cup-shaped glands . . . . *B. prionitis*

Barleria lupulina Lindl., Bot. Reg. *pl. 1483.* 1832. FIGURE 158.

Type: ibid. *pl. 1483* of a cultivated plant, or Mauritius, *C. Telfair s.n.* ex Barker.

Shrub, to 1 m tall, much branched, armed with 2 branched, acicular, axillary spines, these to 1 to 2 cm long. Leaves with petioles 0.3-1 cm long, narrowly obovate or oblong, 4-15 × 0.8-3 cm, base narrowed, apex narrowed and apiculate, glabrous, dark green but often with a reddish midrib. Flowers in dense thick terminal bracted spikes 4-7 cm long, bracts overlapping, 1.5 × 1.2 cm, suborbicular to ovate, puberulent, aristulate, with cup-shaped glands and conspicuous cystoliths; calyx segments lanceolate, 1 cm long, spine-tipped; corolla 2-3 cm long, bright yellow. Capsule 10-15 mm long, acute at apex; seeds strongly compressed, oblong-oval in outline, 7 × 6 mm, silky pubescent.

GENERAL DISTRIBUTION: Native of Mauritius but cultivated and naturalized elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Dominica, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Barleria prionitis L., Sp. Pl. **1:** 636. 1753.

Type: LINN 262.13 (S) fide Wood et al., Kew Bull. **38:** 436. 1983.

Branched shrub to 1 m tall, spines 3 to 5, acicular, in leaf axils, to 2 cm long. Leaves with petioles 2 cm long, blades elliptic to oblong, 10-13 × 4 cm, base narrowed, apex acute, with short spiny mucro, cystoliths abundant. Flowers sessile in axils and in terminal, interrupted, loosely bracted spikes; bracts oblong-lanceolate, long-aristate, 1.5-2 cm long, orange to cream, sparsely strigose; calyx lobes lanceolate, 10-15 mm long, long-acuminate, sparsely pubescent; corolla 3-4 cm long, yellow, 2-lipped, posticous lip of 4 connate lobes, anticous lip clawed, shorter, eglandular. Capsule 2 cm long, ovoid, tapering to a 6 mm beak, glabrous; seeds 8 × 5 mm, flat, hairs cohering in longitudinal strands.

GENERAL DISTRIBUTION: Native of tropical Asia and Africa, cultivated or escaped elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Grenada!, Barbados!.

COMMON NAME: Picanier jaune.

BLECHUM P. Browne

Blechum P. Browne, Civ. Nat. Hist. Jam. 261. 1756.

Perennial herbs. Leaves petiolate, entire to dentate or crenate, cystoliths abundant both surfaces. Inflorescence a dense terminal spike or spiciform raceme, bracts suborbicular, imbricate, ciliate. Flowers sessile or on short pedicels; calyx deeply 5-parted, lobes linear-subulate, nearly equal; corolla infundibuliform, tube slender, lobes 5, contorted, barely exserted; stamens 4, didynamous, included, adnate about middle of tube, anthers 2-loculate, muticous, locules parallel; style filiform, pubescent, stigma obscurely lobed; ovules few to 6 in each locule. Capsule broadly oblong, with a short narrow base; seeds 16 or fewer, suborbicular, compressed, surface mucilaginous when wet.

TYPE: *Ruellia blechum* L. = *Blechum pyramidatum* (Lam.) Urb.

A genus of 6 species of tropical America.

Blechum pyramidatum (Lam.) Urban, Repert. Spec. Nov. Regni Veg. **15:** 323. 1918. FIGURE 159.

Basionym: *Barleria pyramidata* Lam., Encl. **1:** 380. 1783.
Type: Santo Domingo, Plum., Pl. Amer. 30, *t. 2, f. 3.*
Syn.: *Ruellia blechum* L., Syst. ed. 10, **2:** 1120. 1759. (Syntypes cited. The Browne reference designated by Bremekamp (Rec. Trav. Bot. Neerl. **35:** 149. 1938, but LINN 804.1 chosen by Gillis.)
Blechum brownei Juss., Ann. Mus. Natl. Hist. Paris **9:** 270. 1807, nom. nov. for *Ruellia blechum.*
Blechum brownei Juss. f. *puberulum* Leonard, J. Wash. Acad. Sci. **32:** 184. 1942. (Type: Haiti, *E. C. & G. M. Leonard 12696* (holotype, US).)

Herb, stems ascending to 70 cm., branches slender, more or less puberulent. Petioles to 14 mm long; blades ovate, 2-7 × 1-5 cm, base obtuse or narrowed, apex acute or obtuse, margins crenate to entire. Spikes terminal, dense, 4-sided, 3-6 cm long, bracts imbricated, ovate, 1-1.5 cm long, 1 cm wide, apex acute, loosely strigose, margins ciliate; calyx lobes lanceolate, to 3 mm long; corolla tube 7 mm long, lobes 2-3 mm long, mauve or white, flared above; stamens 4, fused in pairs at base of filaments. Capsule broadly oblong, 6 mm long, puberulent; seeds 6 or 7 in each of 2 locules, compressed, orbicular, 1 mm in diameter, brown.

GENERAL DISTRIBUTION: Neotropical weed, Greater Antilles, Mexico, Central America, South America, introduced in paleotropics.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Rock balsam, genou cassé, herbe-savane.

NOTES: Plants with varying sizes of corollas have been observed in populations on Barbados. Cleistogamous flowers have been reported for the genus by Uphof (Bot. Rev. **4:** 21-29. 1938) citing Eggers' field observations.

DICLIPTERA Juss.

Dicliptera A. L. Juss., Ann. Mus. Natl. Hist. Nat. **9:** 267. 1807, nom. cons.

Herbs to woody shrubs, stems hexagonal, pubescent to glabrate. Leaves petiolate, blades entire, cystoliths present. Inflorescence paniculate, cymose, bracteate, axillary or terminal, sessile or subsessile, flowers subtended by 2 or more pairs of bracts, outer ovate, larger, inner lanceolate; calyx segments 5, linear or setaceous, subequal; corolla tube slender, ampliate above, deeply bilabiate, lobes narrow or ovate, posterior one innermost in bud, erect, entire or emarginate, anterior lip broader, shallowly trilobate; stamens 2, exserted, filaments adnate below the throat, anthers 2, one above the other, both muticous; ovules 2 in each locule. Capsule ovoid to suborbicular, more or less compressed, subsessile or appearing stipitate, placentae separating from walls; seeds 4 or fewer, flat, semiorbicular, smooth, tuberculate or glochidiate.

TYPE: *D. chinensis* (L.) Juss., typ. cons.

A genus of about 250 species of tropical areas.

Dicliptera martinicensis (Jacq.) Juss., Ann. Mus. Natl. Hist. Nat. **9:** 268. FIGURE 160.

Basionym: *Justicia martinicensis* Jacq., Enum. Syst. Pl. 11. 1760.
Type: Not determined. No Jacquin material has been located.

Herb, stems to 1 m tall, 6-angled, nodes pilose. Leaves with petioles to 3 cm long, blades ovate, 7-13 × 3-6 cm, base rounded and narrowed, apex acuminate to acute. Inflorescence paniculate or with contracted cymes axillary, bracts ovate, to 15 × 10 mm, acuminate, 5-nerved, inner bracteoles lanceolate, hyaline; calyx lobes 4, free, to 4 mm long, pubescent; corolla tube 11-14 mm, slightly expanded above, pale rose, puberulous, upper lip 9-12 mm long, entire or subobtuse, lower lip 9-12 mm, apex obtuse to 3-lobed; stamens exserted, anthers unequal. Capsule substipitate, 8 × 3 mm, compressed, acute, pubescent, 4-seeded; seeds flattened, oval, 2 mm in diameter, glochidiate, dark brown.

GENERAL DISTRIBUTION: Puerto Rico, St. Croix, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

NOTES: *Dicliptera assurgens* (L.) Juss., a Greater Antillean species, was reported from Martinique by Vélez and from Dominica by Fournet who says he also collected it. No material has been seen. The correct name for this is variously given as *D. sexangularis* (L.) Juss. or *D. vahliana* Nees.

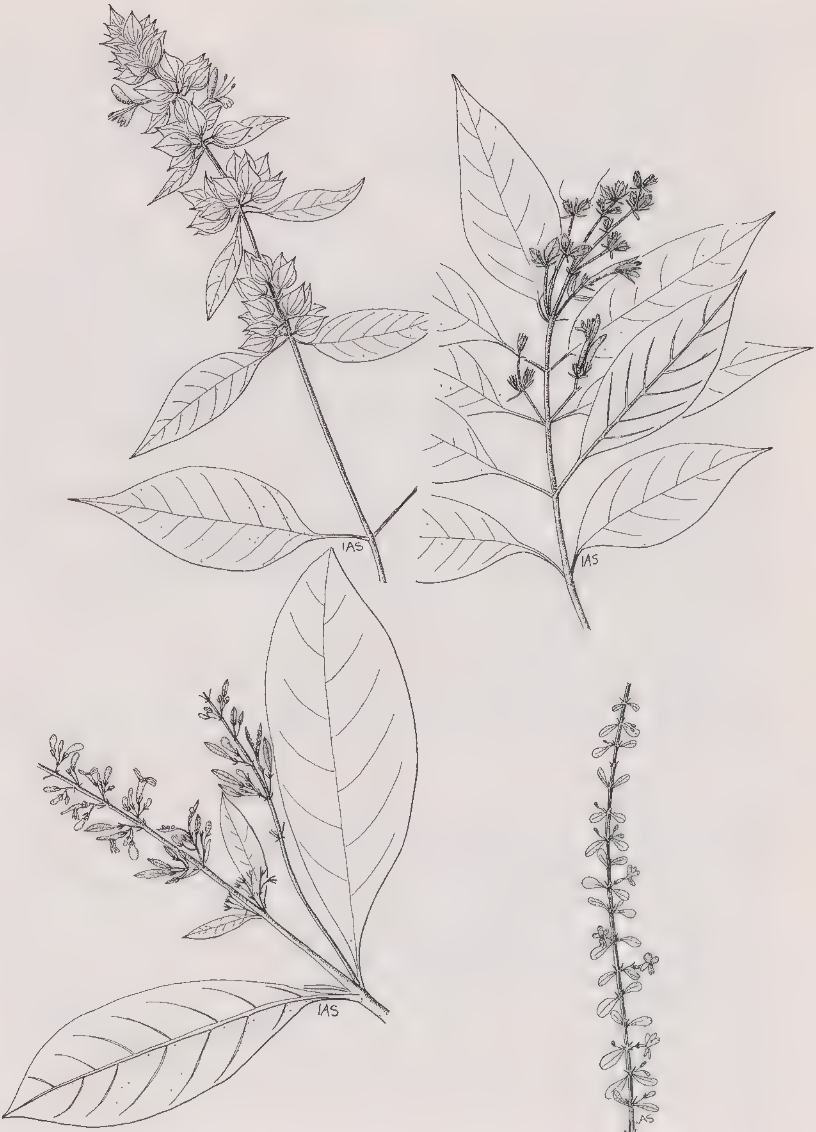


FIGURE 160 (upper left). *Dicliptera martinicensis*: × 0.3. FIGURE 161 (upper right). *Justicia eustachiana*: × 0.3. FIGURE 162 (lower left). *Odontonema nitidum*: × 0.3. FIGURE 163 (lower right). *Oplonia microphylla*: × 0.3.

JUSTICIA L.

Justicia L., Sp. Pl. **1:** 15. 1753.

Syn.: *Beleperone* Nees, *in* Wall. Pl. As. Rar. **3:** 76, 102. 1832. (Type: *Beleperone amherstiae* Nees.)
Drejerella Lindau *in* Urban, Symb. Antill. **2:** 222. 1900. (Type: *Drejerella mirabilioides* (Lam.) Lindau.)
Rhytiglossa Nees, *in* Lindley, Nat. Syst. ed. 2, 444. 1836. (Type: *Rhytiglossa origanoides* Nees.)

Perennial herbs with erect stems or shrubs, smooth or variously pubescent. Leaves petiolate, blades linear, lanceolate to ovate or oblong, entire, cystoliths present. Flowers single or in fascicles in lax terminal or axillary cymes, spikes, panicles, variously bracteate, and with bracteoles; calyx deeply 5-parted, segments subulate or linear, acute, nearly equal; corolla tube short, straight or incurved, ampliate above, limb bilabiate, upper lip erect or concave, incurved and spreading, frequently 2-lobed, or dentate or emarginate, lower lip 3-lobed; stamens 2, adnate to throat, slightly exserted, anthers 2-locular, anther sacs separated, more or less superposed, one or both apiculate and produced in a spur or tail or rounded, connective broad or narrow, staminodes wanting; style filiform; ovules 2 in each locule. Capsule ovate, oblong, clavate, contracted below to short stipe; seeds 4, compressed, suborbicular, smooth, foveolate-rugose, tuberculate or muricate.

TYPE: *Justicia adhatoda* L. fide Britton, Fl. Bermuda 354. 1918; Stearn, J. Arnold Arbor. **52:** 636. 1971.)

A large genus of 450-600 species mostly tropical. The genus is often divided. For further discussion see Stearn, J. Arnold Arbor. **52:** 636. 1971; Gibson, Fieldiana Bot. **34:** 64. 1973, and Barker, J. Adelaide Bot. Gard. **9:** 34. 1986.

CULTIVATED TAXA

Justicia adhatoda L. Reported from Guadeloupe, Martinique and Barbados.
Justicia betonica L. Currently cultivated on Dominica.
Justicia brandegeana Wassh. & Smith (as *Beleperone guttata* Brandegee) The shrimp plant, has been cultivated on Montserrat, Guadeloupe, Martinique and Barbados. Although this has also been called *Justicia fulvicoma* Schlecht., that is a distinct species from Mexico and is not known in cultivation.
Justicia brasiliana Roth. (as *Beleperone amherstiae* Nees). Reported by Lindau from Martinique.
Justicia carnea Hooker. Reported as *Jacobinia carnea* Hook. or *J. magnifica* (Nees) Benth. from Martinique.
Justicia gendarusa Burm.f. Reported from Martinique and St. Lucia.

KEY TO THE SPECIES

1. Calyx segments 4, low herbs.
    2. Flowers solitary . . . . *J. sessilis*
    2. Flowers in spikes . . . . *J. androsaemifolia*
1. Calyx segments 5.
    3. Flowers in terminal panicles.
        4. Bracts minute; corolla to 1 cm long, rose to purple with white markings . . . . *J. pectoralis*
        4. Bracts linear; corolla strongly bilabiate, 3-4 cm long, bright red . . . . *J. secunda*
    3. Flowers in conspicuously bracteate spikes.
        5. Bracts spatulate, obtuse; corolla purple, lobes 3-4 mm wide . . . . *J. carthaginensis*
        5. Bracts lanceolate; corolla lobes narrowly oblong, 12 mm wide.
            6. Bracts shorter than the calyx; spikes usually single in axils of several nodes; corolla rose-purple . . . . *J. eustachiana*
            6. Bracts equal to or exceeding the calyx; spikes commonly aggregated and terminal; corolla red or orange-red . . . . *J. sphaerosperma*

Justicia androsaemifolia (Nees) Lindau, *in* Engl. & Prantl., Nat. Pflanzenfam. 4, **3b:** 350. 1895.

Basionym: *Rhytiglossa androsaemifolia* Nees, *in* DC. Prodr. **11:** 352. 1847.
Type: Martinique, *Sieber 380*, B, presumably destroyed, photo A!.
Syn: *Dianthera androsaemifolia* (Nees) Griseb., Syst. Veg. Karaïben 98. 1857, Fl. Brit. W. Indian Is. 455. 1862.

Herb, stems ascending to 50 cm but rooting at the nodes, with lines of hairs on opposite alternating side. Leaves with petioles 0.5-1 cm, blades ovate-oblong, 3-10 × 1-4 cm, base contracted and subdecurrent, apex acute, acuminate to obtuse. Spikes terminal, rarely axillary, lax, simple, to 5-15 cm; bracts subulate, to 4 mm long, puberulous and ciliate; calyx lobes 4, subulate, 8-10 mm long, puberulous; corolla tube 8 mm long, ampliate above, pubescent outside, 2-lobed, lobes 4.5 mm, upper lip entire, lower lip 3-lobed, pink with white spots on lower lip; filaments 6-8 mm, glabrous, thecae obliquely affixed. Capsule 10-11 × 2-3 mm, stipitate, glabrous; seeds four, 1 mm in diameter.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Les Saintes!, Dominica!, Martinique!.

COMMON NAMES: Petit violette, violette-savane.

Justicia carthaginensis Jacq., Enum. Syst. Pl. 11. 1760; Select. Stirp. Amer. Hist. 5, *t. 5.* 1763.

Type: Cartagena (fragment of 2 flowers ex Herb. Jacq. (BM).)
Syn.: *Justicia retusa* M. Vahl, Symb. Bot. **2:** 8. 1791, Enum. **1:** 136. 1804. (Type: St. Croix, *Pflug s.n.*)

Shrub, to 1.5 m, stems tetragonal and grooved, glabrous. Leaves with petioles 1-2.5 cm long; blades ovate to ovate-lanceolate 3-7(-12) × 1.5-4(-8) cm, base attenuate and cuneate-decurrent, apex acuminate to subobtuse, glabrous. Inflorescence terminal and axillary spikes frequently clustered, 2-5 cm long, flowers in axils of solitary bracts, obovate-spatulate, truncate or mucronulate, 12 × 4 mm, bracteoles lanceolate-cuneate, 13 × 2 mm, obliquely acuminate, pilose, ciliate on margins; calyx segments 5, lanceolate, 9-10 × 1.5-2 mm, pilose with glandular hairs, margins white; corolla tube 15 mm long, puberulent, rose-purple or violet, upper lobe erect, 16 mm long, emarginate or 2-dentate at apex, lower lip 3-lobed, 18 mm long, lobes 3-8 × 6 mm; stamens exserted, filaments 13 mm long, anther thecae inequally affixed, lower thecae spurred. Capsule clavate, compressed, 13-18 × 7 mm, acute or apiculate at apex, stipitate at base, puberulous; seeds 4, 4 mm in diameter, dark brown, shining.

GENERAL DISTRIBUTION: Hispaniola, Virgin Islands, Mexico, Central America, Venezuela, Colombia.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, St. Barts!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, St. Lucia!, St. Vincent, Grenada!.

COMMON NAMES: Grande violette.

Justicia eustachiana Jacq., Enum. Syst. Pl. 11. 1760; Select. Stirp. Amer. Hist. 4, *t. 4.* 1763. FIGURE 161.

Type: ibid. *t. 4.* No Jacquin specimens located.

Syn.: *Adhatoda eustachiana* (Jacq.) Nees *in* DC. Prodr. **11:** 404. 1847.

Beleperone eustachiana (Jacq.) Bentham, *in* Benth. & Hooker, Gen. Pl. **2:** 1111. 1876.

Justicia ryani M. Vahl, Eclog. Amer. **1:** 1. 1797. (Type: Montserrat, *Ryan* (holotype, c!).)

Shrub to 1 m, stems terete, longitudinally ribbed, pubescent. Leaves with petioles 1 cm long; blades lanceolate-oblong, to ovate-lanceolate, 9-14 × 2.5-5.5 cm, base acute and oblique, apex acuminate and oblique, glabrous. Spikes axillary and terminal, simple, peduncles 1-2 cm long, puberulous, not glandular, bracts obovate-lanceolate, 6-8 × 1.5-2 mm, subacuminate, bracteoles 2, linear-lanceolate, glandular-pubescent; calyx lobes 5, separate almost to base, lanceolate, 8-12 mm long, acuminate, corolla tube 10-15 mm, rose-purple to pale purple, upper lip 12-15 mm long, minutely bidentate, lower lip 12-14 mm long, lobes 3 linear-oblong, 7-8 mm long, filaments 10 mm, glabrous, anthers inequally affixed, lower thecae calcarate at base; style glabrous, 20 mm long. Capsule 18 × 5-6 mm, compressed, stipitate, puberulent; seeds 4, subglobose, 3 mm in diameter, pale castaneous.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius, Redonda!, Montserrat!, Guadeloupe!, Marie Galante!.

COMMON NAMES: Grande marguerite.

NOTES: *Justicia racemulosa* Wikstr. (*Tetramerium racemulosum* (Wikstr.) Nees) from St. Barts has not been identified or satisfactorily placed. Lindau reported the type to be an apparently leafless specimen with an axillary inflorescence and 4 sepals differing from the St. Barts material seen and placed here. Happ in a monograph of the genus *Tetramerium* (Ann. Missouri Bot. Gard. **24:** 501-582. 1937) referred the species to *Justicia* and is followed by Daniels (Syst. Bot. Monog. **12:** 3. 1986.).

Justicia pectoralis Jacq., Enum. Syst. Pl. 11. 1760; Select. Stirp. Amer. Hist. 3. *t. 3.* 1763.

Type: ibid. *t. 3.* No Jacquin collection located.
Syn.: *Dianthera pectoralis* (Jacq.) Murr., Syst. Veg. 64. 1784.
Rhytiglossa pectoralis (Jacq.) Nees *in* C. Mart., Fl. Bras. **9:** 128. 1847.
Ruellia pectoralis Vélez, Herb. Angiosp. 72. 1957, comb. invalid.

Herb with ascending stems, to 1 m tall, rooting at nodes, stems with 2 lines of pubescence. Leaves with petioles 0.5-1.5 cm, blades linear-lanceolate, oblong-lanceolate, 2.5-14 × 0.5-4 cm, base contracted and decurrent, apex acuminate, cystoliths conspicuous above. Inflorescence pedunculate, terminal, branched panicles to 25 cm long; bracts setaceous, to 2 mm, bracteoles equal; calyx lobes 5, subulate, 2.5 mm long, minutely glandular-pubescent; corolla tube 4 mm long, white to rose-purple, pubescent outside, upper lip 3-4 mm long, erect, apex bidentate, lower lip 3-lobed, lobes 2.5-3.5 mm; stamens exserted, filaments 2.5 mm long, anthers inequally affixed, thecae basally apiculate; style 5.5 mm. Capsule clavate, 7-8 × 1.5-2 mm long, compressed, stipitate, puberulous; seeds 4, orbicular, compressed, 1 mm in diameter.

GENERAL DISTRIBUTION: Greater Antilles, Central America, South America as a neotropical weed.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Herbe à charpentier, chapantyé.

Justicia secunda M. Vahl, Symb. Bot. **2:** 7. 1791; Enum. Pl. **1:** 133. 1804.

Type: Trinidad, *Rohr s.n.* (holotype, C!).
Syn.: *Justicia geniculata* Sims, Bot. Mag. *t. 2487.* 1827. (Type: ibid. *t. 2487*, drawn from living plant sent by Caley from St. Vincent.
Rhytiglossa secunda (M. Vahl) Nees, in DC. Prodr. **11:** 340. 1847.
Dianthera secunda (M. Vahl) Griseb., Syst. Veg. Karaïben 8. 1857; Fl. Brit. W. Indian Is. 455. 1862 p.p.
Rhacodiscus secundus (Vahl) Brem., Verh. Kon. Nederl. Akad. Wet. Amsterdam afd. Nat. sect. 2, **45:** no 2. 53. 1948.

Stout herb or subshrub, to 4 m tall, stems longitudinally ridged and grooved, 2 lines of pubescence becoming glabrate. Leaves with petioles 0.5-2.5 cm, pubescent; blades ovate-oblong, to oblong-lanceolate, 11-16 × 2-6 cm, base rounded, oblique, apex long acuminate, acumen obliquely mucronate. Inflorescence terminal, subpaniculate, to 12 cm long, pubescent with recurved or decurrent hairs; bracts, bracteoles subulate, 1.5-2 mm long, puberulent; flowers short pedicellate, pedicels 1 mm long; calyx lobes 5, lanceolate, 6-8 × 1.5 mm, glandular pubescent; corolla tube 15 mm long, dull red, pubescent with glandular hairs, upper lip 20-26 mm long, apex dentate, lower lip 22-27 mm long, 3-lobed, lobes oblong, 2 × 1 mm; stamens included under upper lip, filaments 33 mm long, thecae subequally affixed, basally rounded; style 35 mm long. Capsule 10 × 3 mm, compressed, stipitate, acuminate at apex; seed 4, concave-convex, incurved margin ciliate, 3 mm in diameter, tan.

GENERAL DISTRIBUTION: St. Croix, Trinidad, Guianas, Venezuela, Colombia.

DISTRIBUTION IN LESSER ANTILLES: Saba!, St. Kitts!, Montserrat!, Dominica!, Martinique, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: St. John, St. John's Bush.

NOTES: Although this species is well represented in herbaria no fruits have been seen on Lesser Antillean material. The fruit and seed descriptions are derived from South American material and do not represent typical seeds of *Justicia*. When collections from Central America and South America are considered an additional taxon may be recognized. Preliminary studies using SEM photographs of pollen show two distinctive types, one associated with conspicuously bracteated specimens from South America. The name *Justicia lucida* Andr. (Bot. Rep. **5:** *t. 713.* 1803) has been suggested as a synonym of *J. secunda.* Lindau (*in* Engl. & Prantl. Nat. Pflanzenfam. Nachtr. 308. 1897 (not located), or Bull. Herb. Boiss. **5:** 667. 1897, and in Urban's Symb. Antill. **2:** 230. 1900) established the genus *Rhacodiscus,* with the type and only species *Rhacodiscus lucidus* (Andr.) Lindau distinguishing it on the basis of pollen type and thicker leaves. However, in the distribution of the species (Symb. Antill **2:** 231) he cited only collections ''fide Grisebach'' or ''fide Nees'' and it is not clear what material he may have examined. The name *Justicia lucida* is also involved in the typification of the genus *Odontonema* (q.v., as well as Baum & Reveal, Taxon **29:** 334-337. 1979, **31:** 757-759. 1982).

Justicia sessilis Jacq., Enum. Syst. Pl. 11. 1760, Select. Stirp. Hist. Amer. 3. *t. 2.* 1763.

Type: ibid, *t. 2.* No Jacquin collections have been located.
Syn.: *Justicia pauciflora* Vahl, Eclog. Am. **1:** 2. 1796, (Type: St. Croix, *West s.n.* n.v.).
Rhytiglossa sessilis (Jacq.) Nees *in* DC. Prodr. **11:** 345. 1847.
Siphonoglossa sessilis (Jacq.) Orsted, Vidensk. Meddel. Dansk Naturhist. Foren. Kjóbenhaven **8-12:** 160. 1854. Combination proposed but not made. The reference ''Orsted. ex Lindau'' as given by Hendrickson & Hilsenbeck (Brittonia **31:** 378. 1979) can not be traced.
Dianthera sessilis (Jacq.) Griseb., Syst. Veg. Karaïben 98. 1857.

Herbaceous or slightly woody plants, erect or procumbent, stems to 40 cm long, sparsely strigose with recurved hairs, puberulent in two lines. Leaves with petioles 1-2 mm long, blades ovate, obovate or elliptic, 1-4.5 × 0.5-2 cm, base cuneate to subcordate, apex rounded to subacute, glabrous or pubescent above. Flowers 1 to 3 in leaf axils, sessile or subsessile, bracts linear-subulate, 2 mm long, bracteoles smaller; calyx lobes 4, linear-subulate, 4 mm long, ciliolate; corolla tube 11-14 mm long, pilose outside, rose-purple, limb spreading, 4-lobed, upper lip entire, 5-6.5 mm long, lower lip 7 mm long, lobes obtuse 4 × 2.5 mm; anthers inequally affixed; style 11 mm long, pilose, Capsule clavate, 1 cm long, stipitate, puberulent; seeds 4, lenticular, 1.5 mm in diameter, cream-colored, verrucose.

General distribution: Greater Antilles, Central America.

Distribution in Lesser Antilles: St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Martinique!, the Grenadines!, Grenada!.

Common name: Cossie balsam.

Justicia sphaerosperma M. Vahl, Symb. Bot. **2:** 3. 1791.

Type: "Forseith herb." Probably an Anderson collection from St. Vincent.
Syn.: *Beleperone sphaerosperma* (M. Vahl) Benth., *in* Bentham & Hooker, Gen. Pl. **2:** 1111. 1876.

Shrub, stems subterete, glabrous. Leaves with petioles to 2.5 cm, glabrous; blades broadly elliptic-ovate, 5-17 × 2.5-6.5 cm, base contracted to petiole, rarely obtuse or subtruncate, apex acuminate, glabrous. Inflorescence terminal and/or axillary clustered spikes, bracts linear-lanceolate, equaling the calyx, to 17 mm long, glandular pubescent; calyx lobes lanceolate, 7-10 × 1 mm, glandular pubescent; white margined; corolla tube 15-20 mm long, puberulent to glabrate, bluish red, upper lip 10-18 mm, long, bidentate, lower lip 10-15 mm long, 3-lobed, lobes 10-15 mm long, 3 mm wide; filaments 5-8 mm long, glabrous, anthers inequally affixed, lower thecae spurred; style ll mm long. Capsule 15 × 4 mm, compressed, stipitate, acuminate at apex, puberulous; seeds 4, 3 mm in diameter.

General distribution: Greater Antilles.

Distribution in Lesser Antilles: St. Lucia!, St. Vincent!, the Grenadines!, Grenada!

Notes: Many of these specimens had been identified as *J. periplocifolia* Jacq., which is now regarded as distinct.

ODONTONEMA Nees

Odontonema Nees, Linnaea **16:** 300. 1842.

Syn.: *Thyrsacanthus* Nees *in* C. Mart., Fl. Bras. **9:** 97, *p. 13.* 1847. (Type: *Thyrsacanthus barlerioides* Nees)

Herbs or shrubs. Leaves subsessile to petiolate, entire, or undulate, cystoliths present both surfaces. Inflorescence terminal, panicles or racemes;

bracts inconspicuous; calyx 5-parted, segments equal, narrow subulate; corolla tube slender, throat only slightly ampliate, bilabiate, lips subequal, upper lip innermost in bud, 2-lobed, lower lip 3-lobed, lobes usually rounded; stamens 2, anther thecae parallel, oblong, blunt, muticous at base, staminodes small 2; style filiform, ovules 2 per locule. Capsules clavate, basal portion stipitate, solid; seeds 4, lenticular, smooth or tuberculate-rugose.

TYPE: *Justicia rubra* Vahl = *Odontonema rubrum* (Vahl) Kuntze.

A genus of 29 species of tropical America.

For a discussion of the proposals prior to conservation and typification of this genus see Baum & Reveal, Taxon **29:** 334. 1980, **31:** 757-759. 1982; Wilbur, Taxon **30:** 453-454. 1981; Parkinson, Taxon **34:** 331. 1985, and Brummit, Taxon **33:** 297. 1984.

CULTIVATED TAXA

Odontonema cuspidatum (Nees) Kuntze, a species of Mexico and Central America, was cultivated on Dominica, Martinique and St. Lucia as *O. tubiforme* (Bertol.) Kuntze (*O. strictum* (Nees) Kuntze.)

Odontonema nitidum (Jacq.) Kuntze, Revis. Gen. Pl. **2:** 494. 1891.
FIGURE 162.

Basionym: *Justicia nitida* Jacq., Enum. Syst. Pl. 11. 1760; Select. Stirp. Hist. Amer. 5. 1763.
Type: Martinique. No collections by Jacquin have been located.
Syn.: *Thyrsacanthus nitidus* (Jacq.) Nees, *in* DC. Prodr. **11:** 327. 1847.
Odontonema nitidum forma *album* Stehlé, Bull. Soc. Bot. Fr. **109:** 30. 1962. (Type: Martinique, *Stehlé 5202.*)
Odontonema nitidum forma *purpureum* Stehlé, Bull. Soc. Bot. Fr. **109:** 29. 1962. (Type: *Stehlé 2993*).
Odontonema nitidum (Jacq.) Kuntze var. *album* (Stehlé) Baum, Brittonia **34:** 431. 1982.

Shrub to 3 m, stems terete, glabrous. Leaves with petioles 1-2 cm, sparsely pilose; blades oblong-elliptic, 12-28 × 5-7 cm, base narrowed, apex acuminate, acumen obtuse. Panicles terminal, pedicels 1 cm long, 2 or more in fascicles; bracts scale-like; calyx 5 lobed, lobes 3 mm long, acuminate, ciliate on margins; corolla tube 6-8 mm long, 3 mm in diameter, white or violet, glabrous outside, pubescent inside, upper lip 8-9 mm long, lower lip 8-9 mm, spreading, lobes 5-6 mm × 3-4 mm; stamens included, filaments 1.5-8 mm, glabrous, exserted; staminodia two, 1 mm long; style 15 mm long. Capsule 13-20 mm long, 3-4 mm wide, stipitate, apex acute, glabrous; seeds 4, 2 mm in diameter, verrucose.

GENERAL DISTRIBUTION: Cuba, Jamaica, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Antigua!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Bois genou, bois-indien, chapantyé gwan bwa, bois crapaud, z'yeux crabbes, bois crabbe.

NOTES: Baum (1982) reported that the white-flowered plants were herbaceous, with unbranched racemose inflorescences, and were found mainly in the southern islands. Plants of the typical variety she stated were shrubs and had paniculate inflorescences, often with secondary branches and purple flowers, and were found primarily in the northern Antilles. My field notes indicate that white and purple flowered plants were found in the same populations in ravines on several islands.

OPLONIA Raf.

Oplonia Raf., Fl. Tellur. **4:** 64. 1838.

Syn.: *Anthacanthus* Nees *in* DC., Prodr. **11:** 460. 1847. (Type: *Justicia spinosa* Jacq. = *Anthacanthus spinosus* (Jacq.) Nees.)

Shrubs or small trees, most with opposite axillary spines. Leaves small, short petiolate to sessile, entire, often appearing in fascicles on short shoots, cystoliths present. Flowers solitary, axillary, pedicellate, bracts minute; calyx 5-parted, tube short, segments subequal; corolla zygomorphic, tube narrow, cylindrical, almost straight, slightly ampliate above, two-lipped, the upper lip two-lobed, the lower lip 3-lobed, imbricate, lobes subequal; stamens 2, inserted above middle of tube, included or exserted, staminodes 2, minute; ovary with 2 ovules in each locule, style filiform, stigma thickened. Capsule clavate, stipitate, 2- to 4-seeded, seeds flattened, circular.

TYPE: *Justicia spinosa* Jacq. = *Oplonia spinosa* (Jacq.) Raf.

A genus of 19 species of tropical America with 5 additional species in Madagascar. For further information see W. T. Stearn, Bull. Brit. Mus. **4:** 261-323. 1971.

Oplonia microphylla (Lam.) Stearn, Bull. Brit. Mus. **4:** 307. 1971.
FIGURE 163.

Basionym: *Justicia microphylla* Lam., Tab. Encycl. Meth. Bot. **1:** 37. 1791.
Type: St. Croix, *Richard s.n.* (isotype, P).
Syn.: *Anthacanthus microphyllus* (Lam.) Nees, *in* DC. Prodr. **11:** 461. 1847.
Anthacanthus spinosus var. horridus Nees, *in* DC. Prodr. **11:** 460. 1847. (Syntypes: St. Thomas, *Wydler 12*; Martinique, *Plée s.n.*)
Anthacanthus acicularis sensu Lindau, non (Sw.) Nees.

Erect, branched shrub to 1.5 m tall, branches spreading horizontally, pubescent; spines spreading or ascending, straight, 3-15 mm long, axillary short shoots with several leaves. Petioles 0.5-1 mm long; blades elliptic, narrowly ovate, obovate or oblanceolate, 3-12 × 1.5-6 mm, base cuneate, apex rounded, truncate, emarginate or mucronate, glabrous. Flowers solitary or paired, pedicels 2-7 mm long; calyx lobes narrowly lanceolate, 2-3.5 mm long; corolla tube 6-7 mm long, lip 5-6 mm long, pale purple, lilac, or white with purple dots, minutely pubescent; filaments 1.5 - 4.5 mm long. Capsule 1-2 cm long, seeds 0.2 mm in diameter, subspherical, testa reticulate.

GENERAL DISTRIBUTION: Jamaica, Hispaniola, Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Montserrat!, La Désirade!, Marie Galante!, the Grenadines!

COMMON NAMES: Arrête boef, amourettte.

PACHYSTACHYS Nees

Pachystachys Nees, *in* C. Mart. Fl. Bras. **9:** 99. 1847.

Herbaceous or woody plants. Leaves large, petiolate, cystoliths present. Spikes terminal, densely flowered, in verticels of 3 or 4, bracts imbricate, conspicuous, bracteoles minute; calyx 5-parted; corolla tubular, cylindrical, curved, ampliate above, two-lipped, upper lip 2-lobed, lower lip 3-lobed, lobes subequal; stamens 2, attached near base of tube, exserted, anthers sagittate, base muticous, staminodes minute; ovary with 2 ovules in each cell, style filiform. Capsule 2-seeded.

TYPE: *Pachystachys riedeliana* Nees = *Pachystachys spicata* (Ruíz & Pavón) Wassh.

A genus of 12 species of tropical America.

Pachystachys spicata (Ruíz & Pavón) Wassh., Proc. Biol. Soc. Wash. **99:** 175. 1986. FIGURE 164.

Basionym: *Justicia spicata* Ruíz & Pavón, Fl. Peruv. & Chil. Prodr. **1:** 8, *pl. 9.* 1798. Type: Peru, *Ruíz & Pavón s.n.*

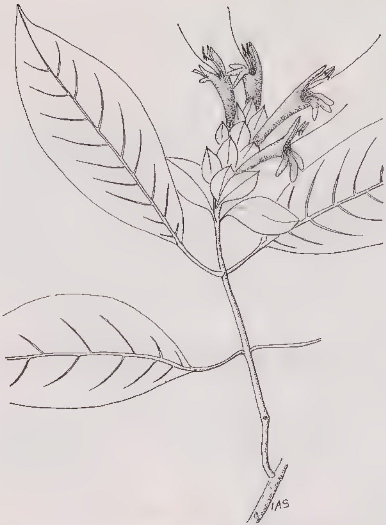
Syn.: *Pachystachys riedeliana* Nees *in* C. Mart., Fl. Bras. **9:** 99. 1847. (Type: Brazil, *Riedel s.n.*)
Pachystachya asperula Nees *in* DC. Prodr. **11:** 320. 1847. (Type: Trinidad, *Lockhart s.n.*, K!.)
Jacobinia coccinea Hiern. *in* Warm., Symbol. **23:** 690. 1878.
Justicia coccinea sensu authors, non Aublet.
Pachystachya coccinea sensu authors, non (Aubl.) Nees.

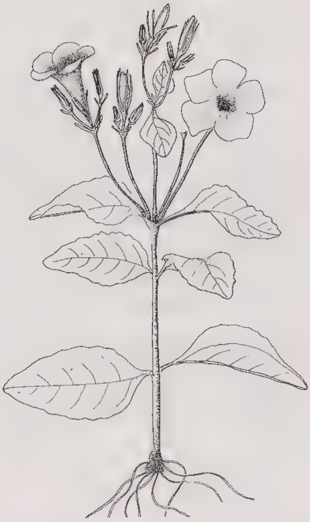
Slightly woody herb to 3 m tall, stems swollen above nodes, glabrate. Leaves with petioles 3-4 cm long; blades broadly elliptic to obovate, 11 -20 × 5-12 cm, base cuneate, asymmetrical, apex acuminate. Spikes solitary, terminal, 6-15 cm long; bracts ovate to elliptic, to 2.5 cm long, loosely imbricate, 1-2.5 × 0.7-1.1 cm; calyx campanulate, lobes narrowly triangular; corolla tube obconic, 5-6 cm long, scarlet to reddish-orange; stamens 2, anthers deeply sagittate. Capsule 2-seeded.

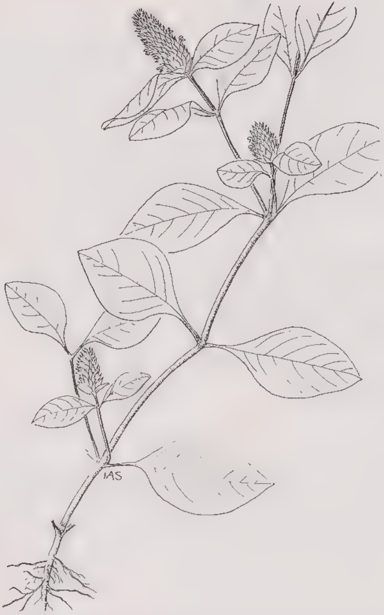
GENERAL DISTRIBUTION: Cuba, Jamaica, Virgin Islands, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Chandelière, panache d'officier, plumet d'officier.







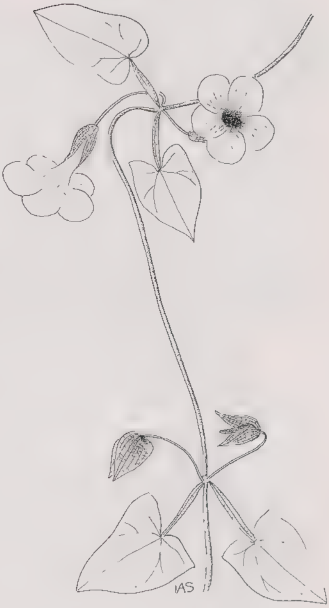


FIGURE 164 (upper left). *Pachystachys spicata*: × 0.3. FIGURE 165 (upper right). *Ruellia tuberosa*: × 0.3. FIGURE 166 (lower left). *Teliostachya alopecuroidea*: × 0.3. FIGURE 167 (lower right). *Thunbergia alata*: × 0.3.

PSEUDERANTHEMUM Radlk.

Pseuderanthemum Radlkofer, Sitz. Math.-Phys. Akad. Wiss. Munch. **13:** 282. 1893.

Herbaceous perennial to small shrubs. Leaves petiolate, often colored or variegated, cystoliths present both surfaces. Flowers in terminal, bracteate spikes; bracts and bracteoles small, narrow; calyx 5-parted, lobes narrow, lanceolate; corolla salverform, tube slender, cylindrical not ampliate, lobes spreading 5, subequal, white, pink or purple; stamens 2, inserted at middle of tube, included, thecae obtuse or acute at the base, muticous, connective often broad; staminodes 2 or absent, minute; ovules 2 in each locule of biloculed ovary; style filiform, stigma bilobed. Capsule clavate; seeds 4, compressed, suborbicular, with short tail, smooth or rugose.

TYPE: *Eranthemum alatum* Nees = *Pseuderanthemum alatum* (Nees) Radlk., but see further discussion by Barker (1986).

A genus of about 60 species of the Neotropics and Paleotropics.

Pseuderanthemum carruthersii (Seem.) Guillaumin, Ann. Mus. Colon. Marseilles VI, **5-6:** 48. 1948.

Basionym: *Eranthemum carruthersii* Seem., Fl. Vit. 185. 1866.
Type: New Hebrides, *MacGillivray s.n.* (holotype, K).
Syn.: *Eranthemum marmoratum* Bull, Retail List **97:** 6. 1874, non Regel 1866.
  Eranthemum atropurpureum Bull, Retail List **110:** 6. 1875; Gard. Chron. **3:** 619. 1875, nom. provis.; De Vos, Belg. Hort. **26:** 151. 1876.
  Eranthemum aureo-reticulatum B. S. Williams, Cat. **1875:** 31. 1875.
  Eranthemum reticulatum Bull, Retail List **110:** 6. 1875, Gard. Chron. n.s. **3:** 619. 1875, nom. provis., De Vos, Belg. Hort. **26:** 151. 1876.
  Eranthemum versicolor Bull, Retail List **110:** 6. 1875, nom. provis., De Vos, Belg. Hort. **26:** 151. 1876.
  Eranthemum el-dorado B. S. Williams, Cat. **1877:** 21. 1877.
  Eranthemum nigrescens Bull, Retail List **143:** 155. 1878.
  Pseuderanthemum atropurpureum (Bull ex De Vos) Radlk. Sitz. Akad. Wiss. Münch. Math.-Phys. Kl. **13:** 286. 1883.
  Pseuderanthemum reticulatum (Bull ex De Vos) Radlk., Sitzb. Akad. Wiss. Münch. Math.-Phys. Kl. **13:** 286. 1883.
  Pseuderanthemum versicolor (Bull ex De Vos) Radlk., Sitzb. Akad. Wiss. Münch. Math.-Phys. Kl. **13:** 286. 1884.
  Eranthemum kewense Bailey, Gentes Herb. **1:** 130. 1923.
  Pseuderanthemum carruthersii var. *atropurpureum* (Bull) Fosberg, Phytologia **5:** 290. 1955.
  Pseuderanthemum carruthersii var. *atropurpureum* f. *atropurpureum* (Bull) Heine, Fl. Nouv.-Caled. **7:** 62. 1976.
  Pseuderanthemum carruthersii var. *atropurpureum* f. *el-dorado* (B. S. Williams) Heine, Fl. Nouv.-Caled. **7:** 62. 1976.
  Pseuderantheum carruthersii var. *atropurpureum* f. *marmoratum* Heine, Fl. Nouv.-Caled. **7:** 62. 1976.

Pseuderanthemum carruthersii var. *atropurpureum* f. *versicolor* (Bull) Heine, Fl. Nouv.-Caled. **7:** 62. 1976.
Pseuderanthemum carruthersii var. *reticulatum* (Bull) Fosberg, Smithsonian Contr. Bot. **45:** 26. 1980.

Shrub, 1-2 m tall, branches quadrangular. Leaves with petioles to 1 cm long; blades mostly elliptic but variable, 20 × 10 cm, base attenuate, apex acuminate, cuspidate or obtuse, green, variously colored red, or variegated. Inflorescence spike-like, to 30 cm long, branches cymose with clusters of 3 or 6 flowers, bracts ovate, 2-4 mm long, pedicels 1-3 mm. long; calyx lobes lanceolate, 3-4 mm long, subequal, pubescent; corolla tube to 18 mm long, white to violet or spotted, pubescent, two posterior lobes slightly wider than the others, elliptic, to 10 × 8 mm, obtuse; stamens exserted, anthers muticous. Fruit not seen.

GENERAL DISTRIBUTION: Native to the Polynesian islands but widely cultivated in tropical countries.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Saba!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Jacob's coat, colored leaf.

NOTES: This common and extremely variable species or species complex almost defies any normal taxonomic treatment. The leaves vary in size and shape including the margin. They vary in color from green to a red-purple and may be variously infused with patterns of color variegation involving white, yellow, and red. Each clone seems to have a "Hort." name, or that of a species, variety or form. Many of the names can be typified with an illustration but that garden literature is not readily available and the problem is left to a monographer.

The Lesser Antillean plants under cultivation may persist along roadsides or at old foundations and do not appear to produce fruit. Vegetative propagation is easily done. Probably each of the taxa listed in synonymy should be recognized only as a cultivar.

RUELLIA L.

Ruellia L., Sp. Pl. **2:** 634. 1753.

Perennial caulescent herbs. Leaves petiolate, entire, often undulate on margins, cystoliths present on both surfaces. Flowers solitary or clustered in leaf axils or in terminal cymose panicles; bracts and bracteoles small or wanting; calyx 5-parted, segments narrow, equal; corolla funnelform or salverform, sometimes saccate, tube narrow, straight or oblique, lobes 5, spreading, nearly regular, convolute aestivation, purple, lavender, red, orange, white; stamens 4, didynamous, anther thecae obtuse or muticous at base; ovules 2 to 10 in each locule, style slender. Capsules linear-oblong or clavate, stipitate, explosively dehiscent; seeds plano-convex, suborbicular, testa mucilaginous covered with short hairs when wetted.

LECTOTYPE: *Ruellia tuberosa* L.

A genus of about 250 species mostly in the tropics and subtropics.

CULTIVATED TAXA

Ruellia affinis (Schrad.) Lindau. Reported from Guadeloupe as *Ruellia subringens* (Nees) Lindau.

Ruellia brittoniana Leonard emend. Fernald. A recent introduction to cultivation on Montserrat.

Ruellia coccinea (L.) Vahl. Reported as *Stemonacanthus coccineus* (L.) Griseb. from Guadeloupe, Dominica and Martinique and represented by old collections.

Ruellia elegans Poir. Reported as *R. formosa* Aiton not H.B.K. as cultivated on Martinique & Barbados, according to Lindau.

Ruellia fulgida Andr. Reported as *Stemonacanthus fulgidus* (Nees) Griseb. from Guadeloupe, Martinique and St. Vincent. Anderson introduced this plant to St. Vincent from the Guianas and sent it to Lord Seaforth in Barbados, who then sent material to Europe.

Ruellia geminiflora H.B.K. Reported from Guadeloupe on the basis of a *Duss 3808* collection, presumably cultivated.

Ruellia graecizans Backer. Reported as *R. amoena* or *R. ventricosa* H.B.K., once cultivated on Martinique. No recent collections. See Fosberg, Bull. Torr. Club **70:** 389. 1943.

Ruellia macrophylla M. Vahl. Once cultivated on Martinique and St. Vincent and reported by Grisebach as *Stemonacanthus macrophyllus* (M. Vahl) Nees.

Ruellia tuberosa L., Sp. Pl. **2:** 635. 1753. FIGURE 165.

Type: Jamaica, LINN 804.8.
Syn.: *Ruellia clandestina* L., Sp. Pl. **2:** 635. 1753. (Syntypes: Barbados, LINN 804.4, 804.5.)
Ruellia picta Lodd., Bot. Cab. 15. *t. 1448.* 1829. (Type: ibid. *t. 1448*, grown from seed obtained from Dominica).
Cryphiacanthus barbadensis Nees, Linnaea **16:** 298. 1842, nom. illegit. citing *R. tuberosa.*

Herb with fusiform tuberous roots, widely branched erect stems to 50 cm tall; leaves mostly basal, finely pubescent. Petioles alate, 1.5 cm long; blades ovate to oblong, 4-6 × 1.5-2.5 cm, base cuneate, apex obtuse, margin undulate, pubescent. Cymes dichotomous, few-flowered, bracts narrow; calyx lobes linear, 12-20 mm long, hispid; corolla tube abruptly expanded above, 4-6 cm long, purple, lobes suborbicular, 12-15 mm wide. Capsule subcylindrical, 1.5 cm long, puberulent; seeds 20 or more per locule, orbicular, 2-2.5 mm in diameter.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico, Central America, South America.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Barbdua!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Bluebell, sheep potato, Daniel's great gun, minne root, snapdragon root, patate-chandelier, patate-macaque.

STENANDRIUM Nees

Stenandrium Nees, *in* Lindley, Nat. Syst. Bot. ed. 2, 444. 1836, nom. cons.

Nearly acaulescent perennial herbs. Leaves in rosette, cystoliths few. Flowers spicate, bracted; calyx lobes 5, narrow, subequal; corolla cylindrical and ampliate to subactinomorphic and salverform, tube sightly curved, lobes 5, unequal, spreading, imbricate; stamens 4, didynamous, attached at middle of tube, included, anthers 1-celled, apex and base of thecae acute; ovules 2 in each of 2 locules, style filiform, stigma bilobed. Capsule fusiform or narrowly oblong; seeds 4 or fewer, compressed, tuberculate or pubescent.

Type: *Stenandrium mandioccanum* Nees.

A genus of 25 species of tropical America.

Stenandrium tuberosum (L.) Urban, Symb. Ant. **4:** 576. 1911.

Basionym: *Gerardia tuberosa* L., Sp. Pl. **2:** 610. 1753.
Type: Not determined, although Plumier Gen. 31 is cited.
Syn.: *Ruellia rupestris* Sw., Prodr. 93. 1788; Fl. Ind. Occid. **2:** 1071. 1800. (Type: Hispaniola, no collector or specimen cited.)
Stenandrium rupestris (Sw.) Nees, *in* DC., Prodr. **11:** 283. 1847.

Acaulescent, rosette-forming herb, roots with oblong tubers. Petioles slender; blades elliptic to oblong, 2-4 × 1-1.5 cm, base cuneate to obtuse, apex rounded, all parts densely to sparsely pilose. Inflorescence spicate, slender-peduncled, bracts linear-lanceolate, 6-7 mm long, long-hirsute, bracteoles linear, 2 mm long, acuminate, glabrous; calyx segments setaceous to linear acuminate, 3 mm long; corolla tube 8-10 mm, glabrous, pink to red-purple, lobes oblong, 6 × 5 mm. Capsule oblong, 5 mm long, glabrous; seeds orbicular, flattened, 1 mm in diameter, minutely tuberculate, dark brown.

General distribution: Hispaniola, Puerto Rico, Virgin Islands.

Distribution in Lesser Antilles: St. Martin, Antigua, Guadeloupe.

Note: Represented only by old collections.

TELIOSTACHYA Nees

Teliostachya Nees, *in* C. Mart. Fl. Bras. **9:** 71. *t. 8.* 1847.

Herbs, erect or decumbent. Leaves petiolate, entire, with cystoliths. Inflorescence spicate, these solitary or several at ends of branches; bracts subtending verticels of 2 to 7 flowers, bracteoles present; calyx deeply 5-lobed, unequal, upper lobes 3-nerved, lateral and lower lobes 1-nerved; corolla cylindric, tube ampliate above, lobes subequal or slightly 2-lipped, obtuse; stamens 4, didynamous, scarcely exserted, anther thecae attached at different heights, thecae apiculate below; ovules 2 in each locule, style filiform, stigmas 2. Capsules oblong, hexangular, acute; seeds 2 per locule, lenticular, yellow, covered with mucous hairs.

TYPE: Not designated.

A genus of 10 species of tropical America separated by some authors from *Lepidagathis.*

Teliostachya alopecuroidea (M. Vahl) Nees *in* C. Mart., Fl. Bras. **9:** 72 (1 June) 1847; DC., Prodr. **11:** 262. (25 Nov.) 1847. FIGURE 166.

Basionym: *Ruellia alopecuroidea* M. Vahl, Eclog. Amer. **2:** 49. 1798.
Type: Montserrat, *Ryan s.n.* (holotype, C).
Syn.: *Lepidagathis alopecuroidea* (M. Vahl) R. Br. ex Griseb. Fl. Brit. W. Indian Is. 453. 1861.

Perennial herb, much branched, to 50 cm tall, stems short pilose. Petioles 2 cm long, puberulous; blades ovate to elliptic, 3-8 × 2-3 cm, base narrowed, apex acute or obtuse, strigose on veins beneath. Spikes terminal, 2-8 cm long, bracts lanceolate to oblong, 6 mm long, veined, ciliate; bracteoles linear-lanceolate, acuminate-setaceous or bristle-like. Flowers subsessile in whorls of 3 to 5; calyx segments unequal, 4-6 mm long, all bristle-tipped, pubescent, anterior pair lanceolate and connate, lateral pair linear, posterior segment obovate; corolla 2-lipped, upper lip bidentate, lower lip 3-lobed, white or violet; stamens 4, anther sacs parallel, superposed, unequal, blunt at base. Capsule oblong, apically acuminate, sessile, 4 mm long, glabrous; seeds 4, ovoid, flattened, pilose, mucilaginous when wet.

GENERAL DISTRIBUTION: Greater Antilles, Central America, Trinidad, South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, St. Lucia!, St. Vincent!, Grenada!, Barbados.

COMMON NAMES: Fond sang, zeau noire, queue de renard.

THUNBERGIA Retz.

Thunbergia Retzius, Physiogr. Salsk. Handl. **1:** 163. 1780, nom. cons.

Climbing herbaceous vines or shrubs. Leaves petiolate, blades mostly sagittate, hastate or cordate at base, cystoliths wanting. Flowers large, pedunculate, solitary in axils or in racemes; bracts 2, spathaceous, large; calyx shortly cupuliform or reduced, truncate or 5- 16-dentate; corolla actinomorphic to zygomorphic, large, funnelform or salverform, tube slender, curved or straight, cylindric or compressed, enlarged into spreading 5-lobed limb; stamens didynamous, attached near base of tube, anthers with apiculate connective, appendaged at base, style apically dilated to 2 deltoid or asymmetric lobes, ovules 2 in each locule. Capsule rounded below, abruptly flattened into beak, subtended by persistent bracts; seeds 2 in each valve, subglobose, with conspicous hollow below from papilliform funiculus.

TYPE: *Thunbergia capensis* Retzius.

A genus of 100 species of the Old world. Sometimes separated as a distinct family.

KEY TO THE SPECIES

1. Shrub, branches not scandent .... *T. erecta*
1. Herbaceous or woody climbers.
    2. Flowers large, 5-8 cm long, blue or white, in racemes.
        3. Leaves ovate to broadly so, base cordate, hastate or truncate pubescent .... *T. grandiflora*
        3. Leaves lanceolate-ovate, base rounded, glabrous .... *T. laurifolia*
    2. Flowers 2-3 cm long, yellow, orange or white, solitary in leaf axils.
        4. Petioles winged; flowers usually orange-yellow with dark purple eye... .... *T. alata*
        4. Petioles not winged; flowers white .... *T. fragrans*

Thunbergia alata Bojer ex Sims, Bot. Mag. **52:** *pl. 2591* (Aug.) 1825.
FIGURE 167.

Type: ibid. *pl. 2591*, from a cultivated plant grown from seeds from Zanzibar and Pemba.

Trailing or climbing herbaceous vine, stems to 1 m, pubescent. Petioles 4-6 cm long, alate, hirsute; blades ovate to triangular-ovate, 2-8 × 1-4.5 cm, entire or remotely toothed, base cordate or hastate, apex acute. Flowers axillary, peduncles slender, 4-6 cm long; bracts 2 per flower, ovate-lanceolate, 1.5-2 × 1 cm, acute or acuminate; calyx dentate, teeth to 2 mm long; corolla tube 2.5-3 cm long, bright orange, yellow or white, with a dark purple eye or a white eye, lobes 5, 2 cm long, emarginate; stamens 4, anther thecae spurred or acute. Capsule depressed globose, to 1 cm in diameter, densely pubescent, beak 1 cm long, seeds 4, ca 4 mm in diameter, reticulate-ridged.

GENERAL DISTRIBUTION: A native of eastern Africa now widely cultivated and escaped in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Saba!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Golden bells, fleur jaune-savane.

NOTE: The yellow-orange flowered form with a white eye is the national flower of Saba and known as golden bells. The subspecific taxa, perhaps to be recognized as cultivars, are much in conflict and will require a special study.

Thunbergia erecta (Benth.) T. Anderson *in* J. Linn. Soc. **7:** 18. 1863.

Basionym: *Meyenia erecta* Bentham, *in* Hooker, Niger Fl. 476. 1849.
Type: "Cape Coast," *Vogel s.n.*

Erect shrubs to 3 m tall, branches tetragonal. Petioles 2-3 cm long, blades ovate or oblong-ovate, 2-4 × 1-2 cm, base obtuse or acute, apex acute or acuminate, margins entire or sinuate-dentate. Pedicels axillary, to 2 cm long; bracts oblong, oblique, 1-2 cm long; calyx teeth 8 to 12, 1-4 mm long; corolla tube 4-6 cm long, purple, lavender or white with white or yellowish throat. Capsules 2.5 cm long, beak 1.5 cm, glabrous; seeds oval in outline, 6 mm in diameter, slightly flattened, dark brown.

GENERAL DISTRIBUTION: A native of Africa now widely cultivated in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, St. Lucia!.

COMMON NAME: Queue de loup.

NOTE: This plant has persisted after cultivation and has been found residual at old house foundations.

Thunbergia fragrans Roxb., Pl. Corom. **1:** 47, *t. 67.* 1796.

Type: Not determined. See Barker (1986) for discussion.

Slender climbing herbaceous vine; stems to several meters in length, grooved, strigose to glabrate. Petioles to 4 cm long, slender, not winged, strigose; blades ovate to ovate-lanceolate, 4-11 × 1.5-6 cm, base subtruncate, cordate or hastate, apex acuminate, acute or obtuse, entire, undulate, or remotely toothed toward the base. Flowers axillary, pedicels to 4-6 cm long; bracts ovate-oblong to 2 cm long, 6-13 mm wide; calyx segments 12 to 20, to 3 mm long, subulate; corolla salverform, white, tube 2-2.5 cm long, pilose, lobes suborbicular, 2 × 2 cm, base cuneate. Capsule depressed-globose, 8 mm in diameter, hirsute, subulate beak 1-1.5 cm; seeds globose, 5 mm in diameter, warty, dark brown.

GENERAL DISTRIBUTION: Native of India, widely cultivated, escaped and persisting in the tropics.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Antigua!, Saba!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAME: White lady.

Thunbergia grandiflora (Roxb. ex Rottler) Lodd., Bot. Cab. **4:** *t. 324.* 1820; Ker, Edw. Bot. Reg. **6:** *t. 495.* 1820.

Basionym: *Flemingia grandiflora* Roxb. ex Rottler, Ges. Naturf. Freunde Berlin Neue Schriften **4:** 202. 1803. (n.v.).
Type: Not determined. See Barker (1986) for discussion.

Woody climber; stems stout, glabrous. Petioles 4-6 cm long, scabrous; blades cordate, 6-17 × 8-17 cm, base cordate, apex acuminate, margin coarsely dentate, palmately 5-7-nerved, pubescent on both surfaces. Flowers axillary or in elongate racemes, peduncles 1-8 cm, bracts ovate-oblong, 4 cm long, black-punctate, and with extrafloral nectaries; calyx an entire ring; corolla to 7.5 cm long, bright blue or white, glabrous, lobes rounded; anther spurs to 3 mm long. Capsule 12-15 mm in diameter, beak to 23 mm long.

GENERAL DISTRIBUTION: Native of India, widely cultivated and infrequently persisting in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent.

COMMON NAME: Liane de chine.

NOTES: Apparently infertile in the Lesser Antilles. Fruits are formed infrequently and all examined are sterile. It is possible that all plants in the Lesser Antilles represent one clone or introduction. The plants sucker readily and cuttings are rooted with ease.

Thunbergia laurifolia Lindl., Gard. Chron. 260. 1856.

Type: Not determined. See discussion by Barker (1986).

Scrambling woody vine, stems glabrous. Petioles 2-5 cm long; blades lanceolate to oblong-ovate, 13-19 × 5-9 cm, base rounded, apex acute, primary veins 3 to 5, glabrous. Inflorescence a terminal raceme, flowers 3 or 4 per node; pedicels 0.8-1.7 cm long, bracts to 3 cm long, glabrate but with glands; calyx an entire ring; corolla tube 3-5 cm long, constricted below, pale blue with whitish throat; anthers 3-4 mm long, basal awn curved, on one pair of anther thecae, the other pair of thecae with one long and one short awn. Capsule not known.

GENERAL DISTRIBUTION: Native to the Malay Peninsula, introduced elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Nevis! Dominica!.

ADDITONAL CULTIVATED TAXA

Thunbergia mysorensis (Wight) Anders. Once cultivated on Martinique (*Duss 4208*).
Thunbergia vogeliana Bentham. Recently cultivated on Grenada.

MYOPORACEAE

MYOPORACEAE R. Brown, Prodr. 514. 1810.

Shrubs or trees. Exstipulate; leaves petiolate, alternate or opposite, entire. Inflorescence axillary, cymes or flowers solitary, flowers perfect, zygomorphic; calyx 5-lobed; corolla gamopetalous, 5-lobed or bilabiate, imbricate; stamens 4, epipetalous, mostly didynamous, staminodes often present; ovary superior, 2-locular, ovules few, pendulous on axile placentae, style solitary, terete, stigma globular. Fruit drupaceous; seeds few, small.

TYPE: *Myoporum* Solander.

A family of 4 genera and about 90 species, mostly Australian.

BONTIA L.

Bontia L., Sp. Pl. **1:** 638. 1753.

Trees or shrubs. Leaves alternate, fleshy, entire. Flowers solitary or clustered in leaf axils, pedunculate; calyx 5-parted; corolla bilabiate, tube cylindrical, straight, upper lip concave, 2-lobed, lower lip recurved, 3-lobed, the middle lobe densely bearded; stamens 4, didynamous, filaments pubescent near the base; ovary ovoid, glabrous, 2-loculed, ovules 4 in each locule, style slender. Drupe ovoid, 2-celled; seeds small.

TYPE: *Bontia daphnoides* L.

A monotypic genus of the West Indies and coastal Venezuela and adjacent islands.

Bontia daphnoides L. Sp. Pl. **1:** 638. 1753. FIGURE 168.

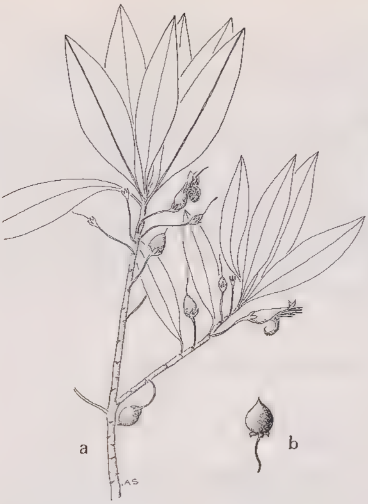
Type: Barbados, LINN 812.1.

Shrub or tree to 4 m. Leaves with petioles 5-12 mm long; blades oblong-lanceolate, 6-8 × 1.2-2 cm, base cuneate, apex acuminate, margin entire, glabrous, slightly fleshy and often twisted. Flowers axillary, solitary or few; pedicels 1-3 cm; calyx lobes broadly ovate, apiculate, ciliate; corolla 2 cm long, yellow with purple blotches, deeply bilobed, the lower lip with reddish-purple pubescence; style 1.5 cm long. Drupe ovoid, 1-1.5 cm long, pointed, yellow.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles and coastal Venezuela and adjacent islands.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Barbuda, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent! Barbados!.

COMMON NAMES: Wild olive, olivier bard.



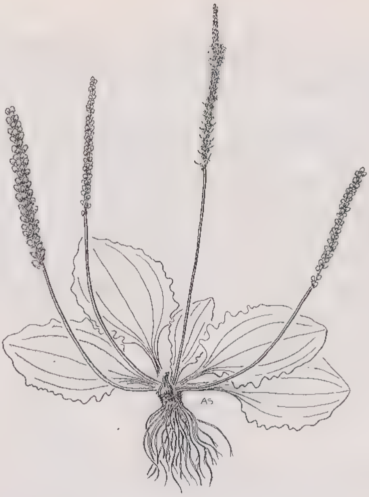


FIGURE 168 (left). *Bontia daphnoides*: a, flowering shoot, × 0.3; b, fruit × 0.3. FIGURE 169 (right). *Plantago major*: × 0.3.

NOTES: This coastal shrub common in saline embayments and the margins of *Rhizophora* swamps is frequently used as a wind break in coastal plantings.

PLANTAGINACEAE

PLANTAGINACEAE A. L. Jussieu, Gen. Pl. 89. 1789.

Mostly perennial acaulescent herbs. Leaves radical and in rosettes, alternate, estipulate, petiolate or blades decurrent to sheathing base, venation palmate or parallel. Inflorescence axillary, scapose and spicate or spicate-branched, bracts minute. Flowers perfect (in ours), actinomorphic; calyx short-tubular, 4-lobed or -toothed; corolla tube short, 4-lobed or -toothed, scarious, often persistent; stamens borne on tube, inflexed in bud and then exserted, 2 or 4, anthers 2-locular; ovary superior, 2-locular, ovules 1 to several per locule, style filiform, bifid. Fruit a membranous circumscissile capsule.

TYPE: *Plantago* L.

A cosmopolitan family of 3 genera and ca. 250 species.

PLANTAGO L.

Plantago L., Sp. Pl. **1:** 112. 1753.

Acaulescent or short-caulescent with stout rootstocks, perennial. Leaves in a rosette, alternate, petiolate or blades decurrent to a sheathing base, venation palmate or parallel. Inflorescence scapose, spicate, bracteate. Flowers perfect; calyx segments equal or two larger than the others; corolla salverform, tube short, cylindric or constricted above, lobes spreading or reflexed; stamens 4 or 2, exserted; ovary 2-loculed, ovules 1 to several in each locule. Fruit a membranous circumscissile capsule; seeds small.

TYPE: *Plantago major* L.

A cosmopolitan genus of over 200 species. Ours as weeds.

KEY TO THE SPECIES

Leaf blades narrowly lanceolate to oblong-lanceolate, usually at least 3 times as long as broad, tapering at the base; corolla lobes 1.8-2.5 mm long; seeds 2, smooth .... *P. lanceolata*

Leaf blades broadly ovate or ovate-elliptic, usually less than 2 times as long as broad, narrowed to a petiole; corolla lobes less than 1 mm long; seeds several in each locule, finely ridged .... *P. major*

Plantago lanceolata L., Sp. Pl. **1:** 113. 1753.

Type: Not determined.

Perennial acaulescent herbs, pubescent. Leaves narrowly lanceolate to oblong-lanceolate, 5-30 × 0.5-4 cm, narrowed to short petiole, apex acute or acuminate, entire, pubescent or glabrate; usually 3-veined. Scapes slender, to 25 cm or more, spikes ovoid becoming cylindric, 1-10 cm long; flowers with sepals ovate, 2.5-3 mm long, with scarious margins, the two lower sepals commonly united; corolla white with black stripes, lobes 1.8-2.5 mm long, glabrous. Capsules ellipsoidal, 2-5 mm long, obtuse, circumscissile at the middle; seeds 2, oval 2-3 mm, concave-convex.

GENERAL DISTRIBUTION: Country of origin unknown. Cosmopolitan as a weed.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Martinique!.

Plantago major L., Sp. Pl. **1:** 112. 1753. FIGURE 169.

Type: LINN 144.1.
Syn.: *Plantago virginica* sensu Duss, non L.

Acaulescent perennial herb with short thick erect rootstock. Petioles 2-15 cm long; blades ovate to broadly elliptic, 2.5-25 × 3-12 cm, base abruptly narrowed, apex usually obtuse, margin coarsely dentate, veins 3-11, glabrous. Scapes 10-30 cm, spikes linear-cylindric, 5-25 cm long, 6-8 mm thick; sepal lobes broadly ovate to obovate, 1.2-2 mm long, margins scarious; corolla lobes oblong, 0.5-1 mm long, obtuse, often persisting. Capsule broadly ovate-elliptic, 3-4 mm long, circumscissile at the middle; seeds to 15 in each locule, oblong, 1 × 0.7 mm, brown.

GENERAL DISTRIBUTION: Country of origin unknown. Now a cosmopolitan weed.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent, Grenada!, Barbados!.

COMMON NAMES: Planten, plantain, millet.

RUBIACEAE

RUBIACEAE A. L. Juss., Gen. Pl. 196. 1789.

Herbs, shrubs or trees, sometimes climbing or scrambling, occasionally epiphytic, a few with axillary spines or lateral branches modified as terminal spines. Stipules present, interpetiolar, intrapetiolar or both, fringed, lobed, or bearing setae on the sheath, persistent or caducous. Leaves opposite or ternate, occasionally appearing whorled, petiolate or sessile; blades membranaceous, coriaceous or fleshy. Inflorescence cymose, paniculate, corymbose, fascicled, capitate or clustered, flowers sessile or pedicelled, perfect or dioecious, often heterostylous, 4- or 5- or more-parted; calyx cupular, tubular or nearly obsolete, equally or unequally toothed or lobed or truncate, caducous or persistent; corolla gamopetalous, infundibuliform, salverform, occasionally rotate or campanulate, tube short or long, lobes valvate, imbricate or contorted, erect or reflexed, glabrous or pubescent, often pubescent inside the tube, or only at the throat; stamens inserted at base, middle, or throat of tube, filaments long or short, anthers globose to oblong or elongate, sometimes apiculate, or sagittate at base; ovary inferior, 2- or more-celled, ovules one to many in each locule, attached at base, side or apex of the locule, placentae of various shapes; style short or elongate, stigma lobed, capitate or cylindrical. Fruit a drupe with 1, 2 or several smooth or characteristically ridged and grooved pyrenes, a berry or a capsule, often of 2 or 4 cocci, septicidally or loculicidally dehiscent, or indehiscent, seeds smooth to variously ornamented, occasionally with a coma at one end, sometimes winged.

TYPE: *Rubia* L.

A large family of nearly 700 genera and 11,000 species of cosmopolitan distribution but especially abundant in tropical areas. A frequently used classification recognizes three subfamilies and about 20 tribes. Many of the tribes are based on corolla aestivation, fruit types and seed attachment with the number of ovules and their arrangement important. The key to the genera which follows is artificial and it is hoped practical for identification. Standley's treatment of the family for North American Flora, volume 32, parts 1-4, 1918, 1921 and 1934, was never completed but remains useful.

Cultivated Taxa

Alibertia edulis (Rich.) DC. Cultivated in Martinique in 1880 (*Duss 484* NY). No recent collections.

Coutarea hexandra K. Schum. *Duss 1462* as *C. speciosa* was cultivated on Martinique.

Gardenia jasminoides Ellis. Cultivated in Guadeloupe, Martinique, and St. Lucia.

Isertia coccinea (Aubl.) Gmelin. *Belanger 149* (P) and *Guilding s.n.* from St. Vincent were from cultivated specimens.

Isertia haenkeana DC. was reported from Guadeloupe in N. Amer. Fl. and can not be verified.

Leptactinia mannii Hooker. Occurs in gardens on Martinique, according to *Duss 106.*

Macrocnemum jamaicense L. Also reported from Guadeloupe in N. Amer. Fl. and possibly cultivated, but the record is unverified.

Mussaenda cv *Luz.* Currently grown on Montserrat.

Mussaenda erythrophylla Schum. & Thonn. Seen recently on several islands.

Mussaenda frondosa L. Represented by *Duss 1005* from Martinique.

Mussaenda luteola Delile. Reported from the French islands.

Mussaenda pubescens Ait. Represented by recent collections from St. Kitts and Barbados.

Neolamarckia cadamba (Roxb.) Bosser has been seen in Forestry Department nurseries and reportedly tried as a timber tree in the Lesser Antilles under the name *Anthocephalis chinensis* (Lam.) A. Rich. ex Walp. with the common name of cadamba. No specimens have been encountered.

Oxyanthus longiflorus Lem. Represented by *Duss 105* from Guadeloupe.

Pentas lanceolata (Forsk.) Schum. (also as *P. carnea* Benth.) is cultivated in Montserrat, Guadeloupe & Martinique.

Portlandia grandiflora L. is cultivated on Barbados (*Howard 18206*) and was cultivated on Grenada in 1905 (*Broadway s.n.*).

Posoqueria latifolia (Rudge) Roemer & Schultes was grown on Antigua (*Duss 104*), Martinique (*Duss 323*), and reported from St. Vincent as *P. trinitatis* DC. (= *P. latifolia*) by Cheesman & Williams (Fl. Trin. **2**: 22. 1938). This may have been an Anderson specimen.

Posoqueria palustris Mart. is a name of a cultivated plant on *Duss 986* from Martinique.

Psychotria gardenioides (Schiedm.) Standley is represented by *Duss 1009* (NY) Martinique as *Palicourea gardenioides.*

Sabicea aspera Aublet. Two specimens from Guadeloupe were collected by Bena without number or any data. They may have been of plants under cultivation.

Serissa foetida Lam. is reported from the French islands by Fournet.

Sipanea pratensis Aublet was reported from Dominica (N. Amer. Fl. **32**: 93. 1921) but no collections have been seen. Bena collected a specimen on Guadeloupe (P) but it has no label data.

Thogsennia lindeniana (A. Rich.) Aiello. Cultivated in Martinique in 1880 (*Duss 991*, NY). No recent collections.

Key to the Genera

1. Fruit capsular, dehiscent or separating into cocci which may be dehiscent.
   2. Corolla tubular, tube usually over 1 cm long (*Rondeletia* may be 5-9 mm long).

      3. Vines; capsules septicidal.
         4. Herbaceous climbing vines; flowers white, corolla lobes valvate; capsules depressed globose, 6 mm dia., seeds glabrous, winged..... *Manettia*
         4. Stout woody vines, epiphytic or if terrestrial with scandent branches; flowers terminal, corolla white contorted; capsule elongated, 6-9 cm long, seeds with coma at one end, pointed at other.............. *Hillia*
      3. Shrubs or small trees; corolla lobes imbricate; capsule loculicidal, seeds winged.
         5. Corolla tube 2 cm or more in length, lobes linear; anthers & stigma long exserted; capsule elongate, 1-3 cm long................. *Exostema*
         5. Corolla tube to 1 cm long, lobes rounded and commonly erose; anthers included; capsules globose, 4-6 mm dia. .... *Rondeletia*
   2. Corolla tube short, 1-4 mm long.
      6. Shrubs or trees.
         7. Shrubs; leaves 5-9 cm long, stipules deltoid, to 3 mm long, subulate-acuminate; capsule obpyramidal-oblong, separating from the base into 2 indehiscent 1-seeded cocci, seeds cylindrical......... *Machaonia*
         7. Trees; leaves 15 cm or more long; stipules lanceolate, 2-4 cm long, acuminate; capsule globose, septicidal from the apex, seeds numerous, compressed, marginate............................ *Chimarrhis*
      6. Herbs, sometimes woody at base, sometimes forming clumps or cushions.
         8. Capsules septicidal, seeds numerous.
            9. Inflorescence shorter than the leaves; flowers pedicillate and solitary or in sessile or stalked umbels, 4-parted.............. *Hedyotis*
            9. Inflorescence exceeding the leaves, lax racemes or slightly branched; flowers 5-parted................................. *Pentodon*
         8. Capsule of 2 cocci, each 1-seeded; flowers sessile in terminal and/or axillary clusters.
            10. Fruits circumscissile; calyx lobes unequal......... *Mitracarpus*
            10. Fruits separating into cocci; calyx lobes equal or nearly so.
                11. Cocci indehiscent or opening only at base.......... *Diodia*
                11. Cocci splitting full length................... *Spermacoce*
1. Fruit fleshy, a drupe with 1 endocarp or 2 or more pyrenes or a berry.
   12. Seeds more than 1 per locule.
       13. Plants armed; fruit a crustaceous berry.
           14. Spines slender; leaves often appearing to be clustered; flowers single, corolla lobes imbricated; fruit black, seeds small.. *Catesbaea*
           14. Spines stout; flowers 1 or few in clusters, corolla lobes contorted; fruits with mucilage, seeds large......................... *Randia*
       13. Plants unarmed.
           15. Inflorescence elongate, appearing spicate, or capitate and subtended by bracts forming an involucre.
               16. Shrubs; inflorescence elongate, appearing spicate or with short branches; flowers white; fruit of 2 pyrenes blue, lavender or white .... *Gonzalagunia*
               16. Climbing vine with nodal adventitious roots or an epiphyte; inflorescence capitate, bracts united to form a subtending involucre; flowers white; fruit baccate, white, seeds numerous .... *Schradera*
           15. Inflorescence cymose or paniculate.

17. Flowers secund on cyme branches; leaves ternate or opposite; flowers red or yellow; fruit baccate, 4-5-celled..... *Hamelia*

17. Flowers not secund; corolla yellow or white.

18. Inflorescence axillary; corolla yellow; fruit baccate, small, 5-6 mm dia., thin-walled, seeds minute..... *Hoffmannia*

18. Inflorescence terminal; flowers creamish-white; fruit large, more than 5 cm dia., brown, thick walled, seeds 6 mm or more in length.................................... *Genipa*

12. Seeds 1 per locule.

19. Climbers or shrubs with scrambling branches.

20. Inflorescence subracemose; stipular collar short, interpetiolar appendages setaceous or apiculate, 2-3 mm long; fruits white, flattened .... *Chiococca*

20. Inflorescence paniculate; stipules free, oblong or oval, 9-12 mm long; fruit cylindrical, black.............................. *Malanea*

19. Herbs or shrubs.

21. Trailing or scrambling herbs; fruits scarlet or red.

22. Creeping and rooting prostrate herbs; leaves cordate; flowers clustered, few together........................ *Geophila*

22. Scrambling herbs; leaves obovate-elliptic, appearing whorled; flowers solitary, subtended by small leaves...... *Relbunium*

21. Shrubs or trees.

23. Flowers aggregated into heads.

24. Fruit a syncarp, white; flowers without subtending involucrate bracts.............................. *Morinda*

24. Fruits separate, blue; flowers subtended by involucrate bracts .... *Pyschotria* (in part)

23. Flowers not in heads.

25. Flowers or inflorescence commonly borne on leafless nodes and occasionally axillary (in *Coffea*).

26. Fruits with 5 or more pyrenes; corolla greenish yellow, campanulate........................ *Vangueria*

26. Fruits with 2 pyrenes.

27. Bracteoles forming an epicalyx; stipules persistent; flowers white; mature fruit red (Cultivated).... .... *Coffea*

27. Flowers without epicalyx; stipules caducous; flowers pinkish; fruit black.................... *Ixora*

25. Flowers or inflorescence terminal or axillary to leaves.

28. Leaves ternate, linear, strongly inrolled; stipules fringed; flowers pink, anthers coherent; fruit white......... .... *Strumpfia*

28. Leaves opposite, flat; anthers not coherent.

29. Corolla lobes imbricated or contorted.

30. Inflorescence peduncled; flowers secund in cymose branches.

31. Plants pubescent; leaves often scabrous; fruit globose or angled, 4-5-seeded..... .... *Guettarda*

31. Plants glabrous; leaves sometimes resinous.

32. Stipules distinct......... *Antirhea*

32. Stipules united in a tube............................. *Neolaugeria*

30. Inflorescence a panicle.

33. Fruit 5- to 10-locular; fruit globose, to 5 mm dia., pyrenes distinct; calyx caducous in fruit...................................... *Erithalis*

33. Fruit 2-locular, cylindrical, 12-16 mm long; endocarp a single stone; calyx coronate in fruit...................................... *Chione*

29. Corolla lobes valvate.

34. Leaves sessile, lanceolate, pungent; fruit oblong, yellow....... *Ernodea*

34. Leaves petiolate, blades broad.

35. Plants with short shoots; inflorescence on slender peduncle; flowers cymose, 2 or 3; calyx lobes obovate or oblong, unequal, persistent on oblong-cylindrical fruit................................ *Chomelia*

35. Plants without short shoots; inflorescence paniculate, flowers numerous; calyx lobes ovate, equal.

36. Corolla long pointed in bud; fruit depressed-globose, 8-12 mm dia., black, 1-seeded, the seed basal; calyx coronate in fruit... *Faramea*

36. Flower buds not long pointed; fruit cylindrical to globose; calyx not coronate in fruit.

37. Intrapetiolar portion of stipule pectinate-lobed or fimbriate; inflorescence shorter than the leaves; seed with incurved ventral surface.................................... *Rudgea*

37. Stipules tubular and entire or free and bilobed.

38. Corolla tube straight, white, greenish-yellow or green; inflorescence branches rarely red.. *Psychotria* (in part)

38. Corolla tube gibbose at base, curved, red or yellow; inflorescence branches red or yellow............. *Palicourea*

ANTIRHEA Commerson

Antirhea Commerson *ex* A. L. Juss., Gen. Pl. 204. 1789.

Syn.: *Antirrhoea* Endlicher, Ench. 272, 692. 1830.
Stenostomum Gaertn. f., Fruct. Sem. Pl. **3:** 69. 1806. (Type: *S. lucidum* (Sw.) C. F. Gaertner.)
Stenostemum Juss., Mem. Mus. Hist. Nat. **6:** 377. 1820. Orthog. var.

Shrubs or small trees, glabrous or resinous. Stipules distinct, deciduous. Leaves petiolate, blades often resinous. Flowers secund on branches of peduncled cymes, sessile; calyx tube ovoid, 4-5-toothed or nearly truncate, lobes persistent in fruit; corolla salverform or funnelform, lobes 4 or 5, imbricated; stamens borne on throat, filaments short, anthers linear; ovary 2-6-celled, ovules 1 in each locule; style slender, stigma capitate or lobed. Fruit 2-6-celled drupe.

TYPE: *A. borbonica* J. F. Gmelin.

A genus of 40 species of the West Indies, Madagascar, and eastern Asia and Australia.

KEY TO THE SPECIES

Calyx subtruncate or with 4 or 5 short broad teeth; petioles 1 cm long, blades 7-13 cm long, thick, leathery, opaque, not resinous; inflorescence branches many-flowered, corolla tube 8-9 mm long . . . . *A. coriacea*

Calyx teeth subulate as long as tube, petioles 1-3 mm long, blades 2-3 cm long, thin, resinous, inflorescence branches few-flowered, corolla tube 10-12 mm long . . . . *A. acutata*

Antirhea acutata (DC.) Urban, Symb. Antill. **1:** 439. 1899 (as *Antirrhoea*).

Basionym: *Stenostemum acutatum* DC., Prodr. **4:** 460. 1830.
Type: Guadeloupe, *l'Herminier s.n.*
Syn.: *Guettarda viscosa* Duch. & Walp., Linnaea **23:** 754. 1850. (Type: Guadeloupe, *Duchassaing s.n.*)
Stenostemum viscosum (Duch. & Walp.) Griseb. Fl. British W. Indian Is. 334. 1861.
Antirrhoea viscosa (Duch. & Walp.) Benth. & Hooker, Gen. Pl. **2:** 101. 1873.
Guettarda resinosa Griseb., Kar. 80. 1857, non Pers.

Shrub to tree of 4-8 m tall, stems finely pubescent. Stipules triangular, acute or acuminate, 4-5 mm long; petioles 2-5 mm long; blades oblong to oblong-lanceolate, 2-6 × 1-1.5 cm, base narrowed, apex acute or obtuse, subcoriaceous, somewhat resinous. Peduncles few-flowered, shorter than leaves; calyx 1.5-2 mm long, teeth subulate, as long as tube; corolla 12-15 mm long, lobes elliptic or rounded, white. Fruit ellipsoid, 5 mm long, 4-6-celled, black.

GENERAL DISTRIBUTION: Puerto Rico, Aruba, Bonaire, Curacao.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Antigua!, Barbuda, St. Barts!, Guadeloupe!, Marie Galante!.

COMMON NAMES: Mutton polly, mapou noir.

Antirhea coriacea (Vahl) Urban, Symb. Antill. **1:** 436. 1899. (*Antirrhoea*).
FIGURE 170.

Basionym: *Laugeria coriacea* Vahl, Eclog. **1:** 26. 1797.
Type: Montserrat, *Ryan* (C).
Syn.: *Stenostomum coriaceum* (Vahl) Griseb., Fl. Brit. W. Indian Is. 334. 1861.

Tree, 8-20 m tall, glabrous. Stipules oblong, 5-8 mm long; petioles to 1.5 cm long; blades elliptic or ovate, 5-13 × 2.56 cm, base obtuse or cuneate, apex obtuse or bluntly short-acuminate, subcoriaceous, glabrous, not resinous. Cymes slender peduncled, few-branched, several to many-flowered; calyx 1.5 mm long, teeth 4, obtuse, short; corolla 8-9 mm long, lobes 4, rounded, shorter than tube. Drupe oblong or ellipsoid, 8-12 mm, 2-celled, black.

GENERAL DISTRIBUTION: Jamaica, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAMES: Mapou noir, akukwa.

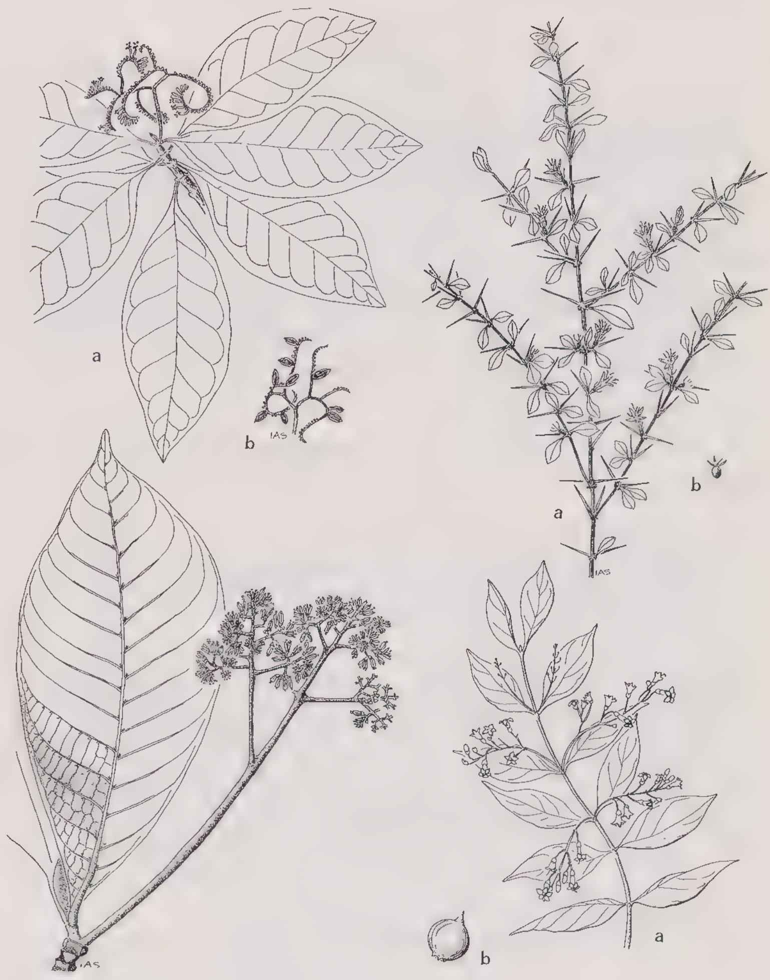


FIGURE 170 (upper left). *Antirhea coriacea*: a, flowering shoot, × 0.33; b, fruiting branches × 0.33. FIGURE 171 (upper right). *Catesbaea melanocarpa*: a, flowering shoot, × 0.33; b, fruit × 0.33. FIGURE 172 (lower left). *Chimarrhis cymosa*: × 0.33. FIGURE 173 (lower right). *Chiococca alba*: a, flowering branch, × 0.33; b, fruit, × 0.33.

NOTES: *Antirhea lucida* (Sw.) Bentham & Hooker was attributed by Urban to St. Barts on the basis of a Wikström specimen which has not been located (Symb. Antill. **8:** 673. 1921).

CATESBAEA L.

Catesbaea L., Sp. Pl. **1:** 109. 1753.

Shrubs, glabrous or pubescent, lower axillary bud developing into short shoot or flowers, upper axillary bud developing into long slender spine. Stipules interpetiolar, small, deciduous; petioles terete; blades coriaceous. Flowers pedicellate or sessile, small or large, erect or pendulous; calyx 4-lobed, lobes subulate or lanceolate, persistent; corolla funnelform with long tube to campanulate with short tube, lobes 4, short, acute or rounded, valvate; stamens 4, inserted at base of corolla tube; filaments filiform, glabrous or pilose; anthers linear, bilobed at base, disc annular; ovary 2-celled, style filiform, stigma elongate, ovules numerous. Fruit thick coriaceous, subglobose, 2-celled, sepals persisting; seeds numerous, compressed, granulate.

TYPE: *Catesbaea spinosa* L.

A genus of 10 or more species of the Florida Keys, the Bahamas, and the Antilles.

Catesbaea melanocarpa Urban, Symb. Antill. **1:** 427. 1899. FIGURE 171.

Type: Syntypes cited from Puerto Rico and St. Croix.
Syn.: *Catesbaea parviflora* Vahl, Symb. **2:** 31. 1791, not Sw.; Grisebach, Fl. British W. Indian Is. 317. 1861, in part.

Shrub to 3 m tall, branches hirtellous, spines slender, 1-2 cm long. Stipules deltoid-acuminate, 2-3 mm long; petioles 0.5-1.5 mm long, blades obovate or rhombic, 5-25 × 2-15 mm, base cuneate, apex rounded to acute, minutely apiculate, sparsely puberulent below. Flowers sessile, solitary or paired; calyx lobes lanceolate, 3-5 mm long in flower; corolla funnelform, 8 mm long, lobes ovate, 3 mm, cream; stamens attached at base of tube, filaments terete, glabrous, anthers elongate, 3.5-4 mm long; style filiform, 9-11 mm long. Fruit globose, 5-6 mm dia, black, pericarp crustaceous, calyx lobes 8 mm long; seeds 5-7 in each cell, compressed, 1.5 mm long, 1 mm wide.

GENERAL DISTRIBUTION: Puerto Rico, St. Croix.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Antigua!, Guadeloupe!.

NOTES: Various recent authors and annotations have suggested this species is a synonym or variant of *C. parviflora* Sw. Regrettably, that species is poorly described and collections are few. Adams (1972) suggests *C. parviflora* Sw. may have fruit white or black, while specimens from Hispaniola so labeled have fruit recorded as scarlet or crimson in color. The records of fruit size are extremely variable. The genus as a whole requires additional field study to determine leaf size and the presence or absence of spines in relation to the growth and habit. The need for flowering and fruiting specimens from one plant is evident.

CHIMARRHIS Jacq.

Chimarrhis Jacq., Select. Stirp. Amer. Hist. 61. 1763.

Trees, glabrous or pubescent. Stipules interpetiolar, convolute, caducous; petioles terete, blades large. Flowers in axillary, many-flowered, long, pedunculate, corymbose cymes; calyx truncate or slightly 5-lobed, persistent; corolla short funnelform, villous in throat, lobes 5, recurved, valvate; stamens 5, filaments filiform, exserted, pubescent at base, anthers oblong; disc orbicular, ovary 2-celled, style short, enlarged above and shortly bifid, ovules numerous. Capsule bisulcate, septicidally bivalvate at apex, valves ultimately biparted, exocarp separating from endocarp; seeds numerous, angulate or compressed, with hyaline margin.

TYPE: *Chimarrhis cymosa* Jacq.

A genus of 15 species of the West Indies and tropical South America.

Chimarrhis cymosa Jacq., Select. Stirp. Amer. Hist. 61. 1763.
FIGURE 172.

Type: Martinique, *Jacquin*. Neotype needed.
Syn: *Chimarrhis cymosa* var. *genuina* Urban, Symb. Antill. **1**: 410. 1899.

Tree to 25 m, branches glabrous. Stipules lanceolate, 2-4 cm long, acuminate or attenuate; petioles 1-3 cm long; blades obovate or ovate-obovate, 5-35 × 2-16 cm, base cuneate and often decurrent, apex obtuse or acute, thin, glabrous, entire, axils of primary veins with tufts and hairs when young and membranous domatia when mature. Peduncles 7-15 cm long, stout, glabrous or puberulent, much branched, 6-18 cm broad; pedicels 1-2 mm long; calyx denticulate or truncate; corolla 4-6 mm long, tube very short, lobes 5-7, lanceolate-oblong, glabrous outside, densely white villose inside, filaments filiform, pubescent at the base, anthers oblong, 1 mm long. Capsule globose, 2-5 mm long, 2-3.5 mm in diameter; seeds compressed, orbicular, with hyaline margins, 0.4-0.6 mm in diameter, testa reticulate.

GENERAL DISTRIBUTION: Cuba, Jamaica, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Waterwood, bois rivière, résolu.

NOTES: Material from Cuba seems appropriately designated as *C. cymosa* ssp. *microcarpa* Urban. Specimens labeled *C. cymosa* from the Guianas may be distinct from the Lesser Antillean populations.

CHIOCOCCA P. Browne

Chiococca P. Browne, Civ. Nat. Hist. Jamaica 164. 1756.

Woody vines or shrubs. Stipules interpetiolar forming a collar with intrapetiolar portion narrowly extended to a point, caducous. Leaves petiolate, blades subcoriaceous, entire. Inflorescences axillary, simple or compound racemes; calyx ovoid, 5-lobed, persistent; corolla funnelform to narrowly campanulate, lobes 5, valvate, spreading or reflexed; stamens 5, attached at the base of the corolla tube, filaments filiform, anthers linear; ovary 2-celled, style filiform, ovules 1 per locule, pendulous. Drupe flattened, coriaceous, white, of two pyrenes.

TYPE: *Lonicera alba* L. = *Chiococca* alba (L.) Hitch.

A genus of 20 species of southern Florida, the West Indies, and tropical America.

NOTES: The treatment of the taxa *C. alba* and *C. parvifolia* has varied over the years with authors from Standley (N. Amer. Fl. **32:** 288. 1934) to Steyermark (Mem. New York Bot. Gard. **23:** 380. 1972) acknowledging that the ''species'' is a variable one but then treating the taxa differently as species, varieties, or subspecies with varieties and formae. Steyermark's statement, ''There are many specimens within the range of *C. alba* subsp. *alba* and subsp. *parvifolia* which are transitional between the two in size of inflorescence and number of flowers in an inflorescence as well as in size of leaves,'' may indeed be true of herbarium specimens. However, field observations suggest two distinctive populations, with *C. alba* more vigorous and a higher climbing vine than the lower sprawling or weakly climbing *C. parvifolia.*

KEY TO THE SPECIES

Leaves 7-10 cm long; inflorescence many-flowered, usually exceeding the leaves .... *C. alba*

Leaves 2-4.5 cm long; inflorescence few-flowered, usually shorter than the leaves .... *C. parvifolia*

Chiococca alba (L.) Hitchc., Rep. Mo. Bot. Gard. **4:** 94. 1893.

FIGURE 173.

Basionym: *Lonicera alba* L. Sp. Pl. **1:** 175. 1753.
Type: A specimen in the Sloane herbarium may be an appropriate lectotype.
Syn.: *Chiococca racemosa* L. Syst. Nat. ed. 10, **2:** 917. 1759. nom. illegit. cited *L. alba.*
Chiococca racemosa L. var. *longifolia* DC., Prodr. **4:** 482. 1830. (Type: Guadeloupe, *Badier s.n.*, IDC 800, 706, III, 2.)
Chiococca alba ssp. *alba* Steyermark, Mem. New York Bot. Gard. **23:** 380. 1972.

Shrub, commonly with scrambling branches 1-3 m long. Stipule lobed; petioles 4-12 mm long; blades elliptic, oblong or ovate, 5.5-9 × 1.5-3 cm, base cuneate or rounded, apex acute or acuminate, glabrous. Racemes with ca. 15 flowers; corolla tube 8 mm long, lobes 3-4 mm long, yellow; stamens light, fused to base of corolla tube, and filaments adhering to each other; filaments

2 mm long, puberulous, anthers linear to 4 mm long; style glabrous, 11 mm long. Drupe orbicular to subglobose in outline, compressed, 5-7 mm long and wide; seeds 1 per locule, to 5 × 3 mm, brown.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico and Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Barbuda, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Snowberry, David's root, Davis root, buenda, liane des sorciers, jasmin-bois, ti branda.

Chiococca parvifolia Wüllschl. ex Griseb, Fl. Brit. W. Indian Is. 337. 1861.

Lectotype: Jamaica, *Wüllschlaegel* (according to Steyermark).

Syn.: *Chiococca micrantha* Johnston, Proc. Amer. Acad. **40:** 696. 1905. (Type: *Johnston 115* (holotype GH!).) Although Johnston's label on the holotype indicates a collection from the Island of Margarita, Steyermark (Fl. Venezuela **9:** 886. 1974) attributes the collection to Cerro de San Juan, Edo. Nueva Esparta, Venezuela.

Chiococca alba (L.) Hitchc. ssp. *parvifolia* (Wüllschl. ex Griseb.) Steyermark, Acta. Bot. Venez. **6:** 138. 1971.

Chiococca alba (L.) Hitchc. ssp. *parvifolia* var. *micrantha* (Johnston) Steyermark, Acta Bot. Venez. **6:** 139. 1971.

Chiococca parviflora Williams & Cheesman, Fl. Trin. Tob. **2:** 29. 1928, sphalma.

Chiococca alba L. var. *parvifolia* Urban, Symb. Antill. **8:** 675. 1921.

Shrub. Stipules membranous, intrapetiolar point to 2 mm long; petioles 3-8 mm; blades ovate to ovate-oblong, 2-4.5 × 1-2.8 cm, base rounded to subacute, apex acute to short acuminate, chartaceous to subcoriaceous, margin subrevolute. Inflorescence few-flowered, shorter than the leaves, pedicels 1.5-3 mm long; calyx lobes 1-1.3 mm long; corolla campanulate, tube 6-7 mm long, lobes triangular-oblong, 2-3.5 mm long; filaments 1-2 mm, short pilose, anthers linear, 3.5-4 mm long; style 8 mm long. Drupe flattened, oval or orbicular in outline, 4 mm in diameter; seed 2 × 2.5 mm, brown.

GENERAL DISTRIBUTION: Florida, Bahamas, Cuba, Jamaica, Hispaniola, Puerto Rico, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Antigua!, Guadeloupe!, Marie Galante!, Dominica!, St. Lucia!, St. Vincent!, the Grenadines!.

COMMON NAME: Snowberry.

CHIONE DC.

Chione DC., Prodr. **4:** 461. 1830.

Syn.: *Crusea* A. Rich., Mem. Fam. Rub. **5:** 204, *t. 19, f. 1.* (Dec.) 1830, non Chamisso & Schlechtendal (Jan.) 1830.

Trees or shrubs, glabrous. Stipules small, caducous, usually short connate; petioles terete; blades coriaceous. Flowers in terminal pedunculate cymes or corymbs; calyx 5-lobed or 5-toothed to subentire; corolla funnelform, throat glabrous, lobes 5, imbricate; stamens 5, inserted above base of corolla tube; filaments stout, anthers large exserted, linear-oblong, disc swollen; ovary 2-celled, style stout, stigma linear-oblong, exserted; ovules solitary, pendulous. Drupe cylindric or ellipsoid, bony, sulcate, 2-celled; seeds elongate, terete.

TYPE: *Crusea glabra* A. Rich. = *Chione venosa* (Sw.) Urban.

A genus of 10 species of Central America and the West Indies.

Chione venosa (Sw.) Urban, Symb. Antill. **4:** 594. 1911. FIGURE 174.

Basionym: *Jacquinia venosa* Sw. Prodr. 47. 1788.
Type: West Indies, a specimen in the Banks herbarium.
Syn.: *Psychotria megalosperma* Vahl, Eclog. **3:** 3. 1807 (excluding *fig. 21*).
Crusea glabra A. Rich., Mem. Fam. Rub. 124, *t. 19, f. 1.* Dec. 1830. (Type: ibid. *t. 19, f. 1.*)
Chione glabra DC., Prodr. **4:** 461. Sept. 1830, see Notes.

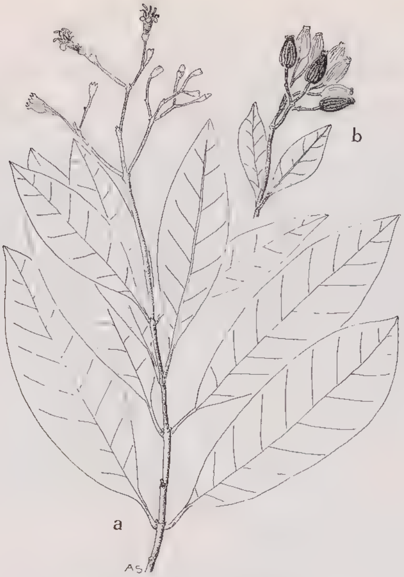
Tree to 15 m tall, branches glabrous. Stipules deltoid, 3-4 mm long, acute or acuminate, caducous; petioles 0.5-2 cm long; blades narrowly oblong, lance-oblong or elliptic-oblong, 5.5-14 × 1.8-4.5 cm, base acute, apex acute or acuminate, coriaceous, shining, margin revolute. Inflorescence terminal, cymose-corymbose, many-flowered, peduncles stout, 3-5.5 cm long, pedicels 3-7 mm; calyx tubular, flaring, minutely lobed; corolla 6-7 mm long, lobes imbricate, oval to orbicular, 2 × 3 mm, white or cream; stamens exserted, anthers linear curved, to 4 mm long; style terete below, swollen above, divided, to 1 cm long. Drupe cylindric and elongate, 12-16 mm long, 6-9 mm thick, angulate, purple or black, stone hard, 2-loculed; seed terete, to 1 cm long, pendulous.

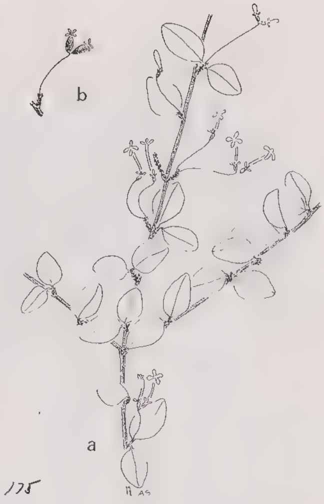
GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Trinidad.

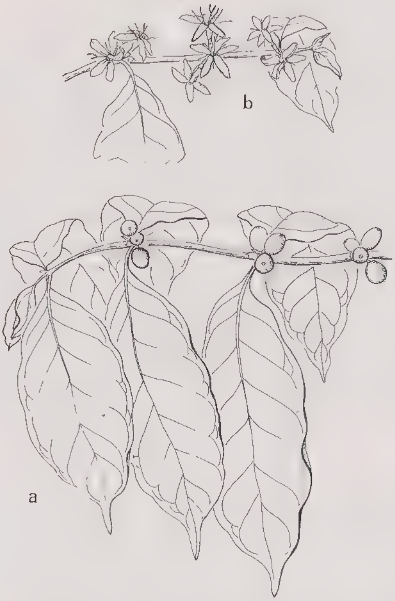
DISTRIBUTION IN LESSER ANTILLES: Antigua, St. Kitts, Montserrat!, Guadeloupe!, Dominica, Martinique!, St. Lucia, St. Vincent!, the Grenadines, Grenada!.

COMMON NAMES: Mastic, fat pork, violette, bois bandé.

NOTE: According to the data in Taxonomic Literature, de Candolle had access to proof sheets of Richard's work on the Rubiaceae prior to 1830, and Guilleman inserted notes in deCandolle's manuscript for the Prodromus published in Sept. 1830. Richard's paper was not officially published until Dec. 1830. Although the Prodromus treatment cited Richard, the name *Chione glabra* should be attributed only to deCandolle and is illegitimate since he cited Vahl (1807) in part.







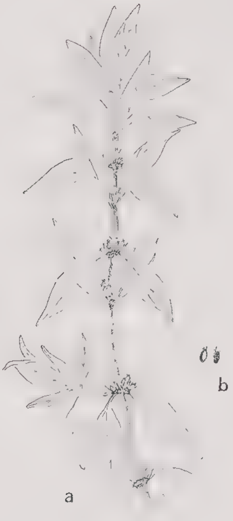


FIGURE 174 (upper left). *Chione venosa*: a, flowering shoot, × 0.3; b, fruit, × 0.3. FIGURE 175 (upper right). *Chomelia fasciculata*: a, flowering shoot, × 0.3; b, fruit, × 0.3. FIGURE 176 (lower left). *Coffea arabica*: a, fruiting branch, × 0.3; b, flowering branch, × 0.3. FIGURE 177 (lower right). *Diodia sarmentosa*: a, flowering shoot, × 0.3; b, fruit, × 0.3.

CHOMELIA Jacq.

Chomelia Jacq., Enum. Syst. Pl. **1:** 12. 1760, nom. cons.

Syn.: *Anisomeris* Presl, Symb. Bot. **2:** 5, *t. 54.* 1834. (Type: *A. spinosa* K. B. Presl.)

Shrubs or small tress, armed or not. Stipules interpetiolar, petioles terete; blades very densely reticulate-veined, puberulent. Inflorescence axillary, cymose; calyx tubular, lobed; corolla hypocrateriform, tube slender, glabrous, lobes imbricate to valvate; stamens inserted on upper part of tube, anthers subsessile; disc urceolate or cylindrical, style slender, bilobed, exserted, ovary 2-celled. Fruit cylindrical, drupaceous, pyrenes 2; seeds cylindrical.

TYPE: *Chomelia spinosa* Jacq.

A genus of about 400 species, including *Anisomeris*, most abundant in Africa, with 50 or less in the New World.

Chomelia fasciculata (Sw.) Sw., Fl. Ind. Occ. **1:** 238. 1797. FIGURE 175.

Basionym: *Ixora fasciculata* Sw. Prodr. 30. 1788.
Lectotype: Grenada, *Masson s.n.* (BM!).
Syn.: *Anisomeris fasciculata* (Sw.) K. Schum., *in* Engler & Prantl, Nat. Pflanzenfam. 4, **4:** 98. 1891.

Shrub with lateral branches as short shoots, often spinose, long hirsute. Stipules triangular-acuminate, 1.5-2.5 mm, petioles 1-3 mm long, long hirsute; blades rounded-ovate to elliptic-ovate, 1.2-3.7 × 0.7-7.2 cm, base rounded or acute, apex obtuse to short acuminate, glabrous, veins with axillary tufts of hairs. Inflorescences terminating in lateral shoots or on lateral short shoots, cymes 2-3-flowered, peduncles 1-3 cm long, flowers sessile; calyx lobes unequally developed, obovate, oblong or linear, 2-5 mm long, persisting; corolla salverform, tube 7-12 mm long, lobes ovate, 2.5 mm long, short pilose, white; stamens slightly exserted, anthers linear, to 2 mm long; style filiform, to 13 mm long, stigmas 2, recurved. Fruit drupaceous, narrowly oblong, 8 mm long, 3-4 mm dia, red, stone hard, longitudinally bisulcate, locules 2, each 1-seeded; seeds terete, 5 mm long, pendulous.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

NOTES: Airy Shaw (Willis, Dictionary 1973) distinguishes *Anisomeris* and *Chomelia*, as did Standley (Fl. N. Amer. **32**(3): 223-227. 1934). However, Bremekamp (Rec. Trav. Bot. Neerl. **31:** 272. 1934) combined the genera and in this has been followed by Steyermark (Fl. Venez. **9:** 847-863. 1974; Mem. New York Bot. Gard. **17:** 333. 1968). In Taxon **25:** 205-206. 1976 Skog discussed the proposal for conservation of *Chomelia* Jacq.

COFFEA L.

Coffea L. Sp. Pl. **1:** 172. 1753.

Shrub or small trees, glabrous. Stipules interpetiolar, simple, persistent; petioles terete, stout; blades coriaceous, smooth or corrugate, entire. Flowers in axillary fascicles, sessile or short pedicellate, single or frequently double; calyx subcylindrical, single or double; corolla hippocrateriform or infundibuliform, white, glabrous or villose in throat, lobes 4-5, oblong, contorted in bud; stamens 4 or 5, inserted in throat, filaments short, anthers linear; ovary bilocular, ovules solitary in each locule, inserted at middle of septum, style bifid at apex. Drupe globose or oblong, pyrenes 2, mostly cartilaginous; seeds with a lateral fissure.

TYPE: *Coffea arabica* L.

A genus of about 40 species native to the Old World but cultivated on nearly all the islands.

KEY TO THE SPECIES

1. Outer unshaded leaves 12-15 × 6 cm, smooth and shiny; fruit to 1.5 cm . . . . *C. arabica* L.
1. Outer unshaded leaves 20 × 1 cm or larger.
    2. Leaf blades corrugated; fruit 1.2 cm long (Robusta coffee) . . . . *C. canephora* Pierre ex Froehner
    2. Leaves smooth and glossy; fruit 2-3 cm long (Liberian coffee) . . . . *C. liberica* Bull ex Hiern.

Coffea arabica L. Sp. Pl. **1:** 172. 1753. FIGURE 176.

Shrub to 5 m tall, glabrous. Stipules triangular, acuminate, 4-6 mm long; petioles 4-12 mm long; blades elliptic-ovate to lanceolate-elliptic, 10-20 × 3-8 cm, base narrowed, apex acuminate to subcaudate, smooth, shiny, margin entire. Inflorescence axillary, flowers fascicled or in short cymes; calyx tubular, with 5 short lobes; corolla tube 7-20 mm long, white, lobes 5 or 6, narrowly oblong, 10-18 × 3-7 mm; anthers linear, to 9 mm long, style 1.7-3.5 cm. Drupe ovoid, 1.5-1.8 cm long, 1.2 cm in diameter, red changing to black.

TYPE: LINN 232.1.

GENERAL DISTRIBUTION: Probably cultivated in all tropical countries.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Dominica!, Martinique!, Grenada!.

COMMON NAME: Coffee, café.

NOTES: *Coffea arabica* is poorly represented by herbarium specimens from the Lesser Antilles. It has been seen on many more islands than are cited above. *Coffea canephora*, as Robusta coffee, has been reported in literature to have been tried in the Lesser Antilles. *Coffea liberica* is represented by single old collections from Antigua, Martinique, Guadeloupe, and Barbados, and by a recent collection from Dominica.

DIODIA L.

Diodia L., Sp. Pl. **1:** 104. 1753.

Herbs, often with woody scrambling branches. Leaves opposite, stipules sheathing; petioles short or wanting; blades often rigid. Flowers axillary, fascicled; calyx 4-lobed, often with interculated minute teeth; corolla funnelform or salverform, 4-lobed, lobes valvate; stamens 4, inserted on throat of tube, filaments slender, anthers oblong-linear, exserted; ovary 2-loculed, ovules 1 per locule, ascending, style filiform, bifid at apex. Fruit 2-loculed, separating into 2 indehiscent carpels; seed oblong, convex and grooved on back.

TYPE: *Diodia virginiana* L.

A genus of 50 species of the tropics and subtropics.

KEY TO THE SPECIES

1. Leaves membranous; flowers several (6-12) in axillary clusters; cocci partially dehiscent at lower end of inner face . . . . *D. ocymifolia*
1. Leaves coriaceous, rigid, scabrous; flowers mostly 1 or 2 in axils; cocci indehiscent.
    2. Diffusely branched, these ascending; leaves lanceolate, to 6 mm wide; stipular setae glabrous . . . . *D. rigida*
    2. Herb with climbing or trailing branches; leaves 10-15 mm wide; stipular setae pubescent . . . . *D. sarmentosa*

Diodia ocymifolia (Willd.) Bremekamp, Rec. Trav. Bot. Neerl. **31:** 305. 1934.

Basionym: *Spermacoce ocymifolia* Willd. ex Roemer & Schultes, Syst. **3:** 350. 1818.
Type: West Indies, *Rudolphi* n.v.
Syn.: *Hemidiodia ocymifolia* (Willd.) K. Schum. *in* C. Mart. Fl. Bras. **6**(6): 29. 1888.

Slightly woody herb with erect branches, to 30 cm tall, stems 4-angled, short curved ciliate pubescent. Stipule sheath pubescent, setae 3-5 mm long, pubescent; petioles thin, to 1 cm long, minutely pubescent; blades lanceolate to oblong-lanceolate, 3-9 × 1-2.5 cm, base cuneate, apex acute or acuminate and short apiculate, minutely scabrous above, glabrous. Flowers in axillary clusters usually 6-10; calyx lobes ovate, 0.5 mm long; corolla tube 3 mm long, lobes narrowly triangular, 1-2 mm long, stamens slightly exserted, filaments 0.6-1 mm long, anthers linear-oblong, 0.7 mm long; ovary 1.5-2 mm long, pubescent. Cocci about 3 mm long, puberulent, inner surface membranous, usually splitting near the base; seeds to 2 mm long, dark brown, fissure simple.

GENERAL DISTRIBUTION: Greater Antilles, Mexico and Central America, tropical South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Herbe à macornet, herbe à cornette.

Diodia rigida Cham. & Schldl., Linnaea **3:** 341. 1828.

Type: Brazil, *Hoffmannsegg s.n.*
Syn.: *Spermacoce apiculata* Willd. ex Roemer & Schultes, Syst. **3:** 531. 1818. (Type: Brazil, *Hoffmannsegg s.n.* (Herb. Willd. 2626, IDC 7440. 174. II, 9).)
Spermacoce rigida Willd. ex R. & S. Syst. **3:** 531. 1818. (Type: Venezuela, *Humboldt s.n.* (Herb. Willd. 2628, IDC 7440. 174. III, 4).)
Diodia apiculata (Roemer & Schultes) K. Schum. *in* Engl. Bot. Jahrb. Syst. **10:** 313. 1889.

Perennial herb, woody at base and branched from base; stems to 70 cm long, quadrangular, loosely long pilose pubescent becoming glabrate. Stipular sheath short, bristles filiform, to 8 mm long, glabrous; leaves sessile; blades lanceolate, 1.5-3 × 0.2-0.5 cm, base obtuse, apex acuminate and apiculate, scabrous above and on midrib below, margins short ciliate-scabrous. Flowers mostly solitary in axils, sessile; calyx teeth linear, to 1 mm long, subequal or two long and two half as long; corolla funnelform, tube 7-15 mm long, white or rose, lobes ovate or ovate-lanceolate, 3 mm long, acute; filaments terete, to 1.5 mm long, anthers oblong, 1 mm long; style 7-14 mm long, stigma lobes oblong. Fruit globose, glabrous or puberulent, 2.5 mm dia, separating into two closed cocci; seeds oblong, compressed, with y-shaped fissure.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Central America, tropical South America.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, St. Vincent.

NOTE: Recent authors have used the name *Diodia apiculata* (Willd. ex R. & S.) Schumann (1889) for this species, which name was based on *Spermacoce apiculata* Willd. ex R. & S. (1818). The present specific name was based on *Spermacoce rigida* Willd. ex R. & S. (1818), not Salisb. (1796). However, the specific epithet *rigida* was used in *Diodia* by Chamisso & Schlechtendal (1818) before the epithet *apiculata* was used by Schumann (1889). According to Art. 72, *Diodia rigida* Chamisso & Schlechtendal is the correct name. Velez gives a wider distribution for this species, but it is unsupported by herbarium vouchers.

Diodia sarmentosa Sw., Prodr. 30. 1788; Fl. Ind. Occid. **1:** 231. 1797.
FIGURE 177.

Type: Swartz gave no reference to collectors or specimens in either reference. He stated only Jamaica. A Swartz specimen is probable as a neotype.

Perennial herb with scrambling or climbing branches to 3 m long; stems quadrangular, ciliate on margins, soft pubescent elsewhere. Stipular sheath short, bristles setaceous, to 8 mm long, ciliate pubescent; petioles to 3 mm long; blades oblong or oblong-lanceolate, 3-7 × 2-3 cm, base cuneate, apex acute or acuminate, densely scabrous above, less so below. Flowers few or sometimes solitary; calyx lobes 4, subequal or two larger, lanceolate, to 1 mm long; corolla short hippocrateriform, tube 1-2 mm long, lobes ovate to oblong, 1-1.5 mm long, white. Fruit ellipsoid or obovate-ellipsoid, 3.4-4.5 mm long, puberulent when young becoming glabrate, cocci indehiscent; seed 2 mm long, dark brown, fissure narrow in the middle and expanded at both ends.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, northern South America, introduced into the Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Martinique!.

COMMON NAMES: Liane-hallier, liane-macornet, liane à cornette.

ERITHALIS P. Browne

Erithalis P. Browne, Civ. Nat. Hist. Jamaica 165, *t. 17, f. 3.* 1756.

Shrubs or small trees, mostly glabrous. Leaves opposite, stipules intrapetiolar, connate into a truncate sheath, persistent; petioles present; blades usually coriaceous. Inflorescence axillary, racemose, corymbose or cymose-paniculate, flowers pedicellate; calyx cupular, 5-10-toothed, persistent; corolla salverform, tube short, throat glabrous, lobes 5 or 6, linear or oblong, valvate; stamens 5 or 6, inserted at base of corolla tube, filaments filiform, pilose, anthers linear or oblong; ovary 5-10-celled, style short, stigmas lanceolate, ovules solitary in each cell, pendulous. Fruit drupaceous, globose, sulcate, pyrenes woody; seeds oblong, compressed.

LECTOTYPE: *Erithalis fruticosa* L.

A genus of 10 species of Florida and tropical America.

KEY TO THE SPECIES

1. Leaves acute or acuminate at the apex .... *E. acuminata*
1. Leaves rounded or obtuse at the apex.
    2. Corolla lobes 8 mm long; tube of calyx 2.5-3 mm long, conspicuously lobed or undulate .... *E. odorifera*
    2. Corolla lobes 4 mm long; tube of calyx 1-2 mm long, truncate to slightly repand-undulate .... *E. fruticosa*

Erithalis acuminata Krug & Urb., Notizbl. Bot. Gard. Berlin **1:** 319. 1897.

Type: Syntypes cited from Martinique (*Duss 206, 937, 1724*) and St. Vincent (*Guilding s.n.*).

Syn.: *Erithalis angustifolia* sensu Griseb. Fl. Brit. W. Indian Is. 336. 1861, non DC.
Chiococca pulcherrima Wernham, J. Bot. **51:** 322. 1913. (Type: St. Vincent, *Anderson 308* (K!).)

Shrub to 2 m, glabrous. Stipules connate, short apiculate, 3-4 mm long; petioles 1-2 cm long; blades lanceolate to oblong-lanceolate, 7-12 × 2-3.5 cm, base cuneate, apex long-acuminate, chartaceous-coriaceous, glabrous. Inflorescence axillary, racemose, 5-7-flowered; pedicels 1.5 cm long; calyx lobes semi-orbicular; corolla tube 2.5 mm long, lobes ovate-lanceolate, 3 mm long. Fruit globose, 4-4.5 mm long, usually 5-celled; seeds obovate, compressed.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, St. Vincent!.

COMMON NAME: Flambeau montagne.

NOTES: Urban cited *Duss* collections *206*, *937*, and *1728* from Mt. Pelée. The Berlin material was destroyed, and an isotype (NY) has one specimen with all three Duss numbers on one label.

Chiococca pulcherrima Wernham is assigned to synonymy here for the first time. The type, an Anderson collection at Kew, is numbered *308* by persons unknown, for Anderson rarely used collection numbers. The fruit of this collection has 6 carpels and is excluded from *Chiococca.* Anderson noted in his Hortus, "This beautiful shrub grows on the summit of the highest mountains and is scarce." The *H. H. & G. W. Smith* collection *1806 = 1828* (GH, K, NY) from St. Vincent was identified as *Chiococca parvifolia* but has no data on locality. Steyermark annotated the NY sheet as "intermediate between *Chiococca parvifolia* and *micrantha.*"

The Guilding collection cited by Urban has not been located but may have been from the plant Anderson cultivated in the St. Vincent botanical garden.

Erithalis fruticosa L., Syst. Nat. ed. 10. **2:** 930. 1759. FIGURE 179.

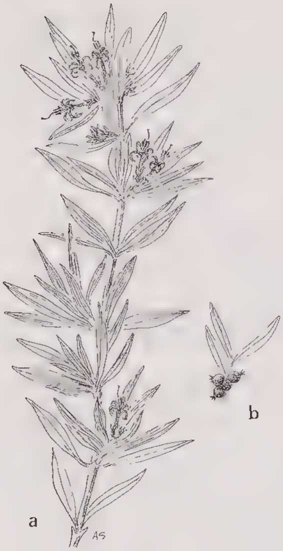
Type: Jamaica. A Browne figure or specimen would be a possible lectotype.

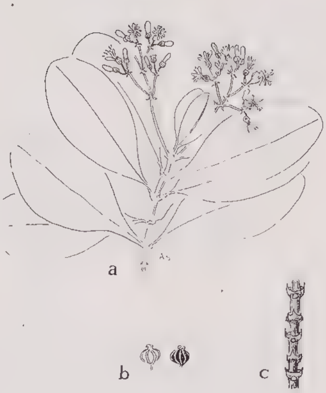
Shrub or small tree to 5 m tall. Stipules connate, 2-6 mm long, subulate-mucronate; petioles 0.3-2 cm long; blades oblanceolate-oblong, obovate or orbicular, 2-12 × 1-6 cm, base rounded to acute or subdecurrent, apex rounded or obtuse, chartaceous to thick coriaceous, glabrous, entire. Inflorescence axillary, corymbose-paniculate, usually many-flowered, peduncles 3-12 cm; calyx 1-2 mm long, obscurely denticulate; corolla tube 1-1.5 mm, lobes 5, linear-oblong, 3-5 mm long, white; filaments 2-3 mm, anthers 3-4 mm. Fruit globose or depressed globose, 2.5-4 mm in diameter, black.

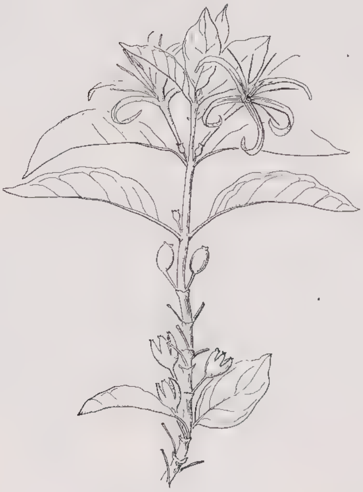
GENERAL DISTRIBUTION: Florida, the Bahamas, Greater Antilles, Belize.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Barbuda!, Antigua!, Montserrat!, Guadeloupe!.

COMMON NAMES: Candlewood, bois flambeau.







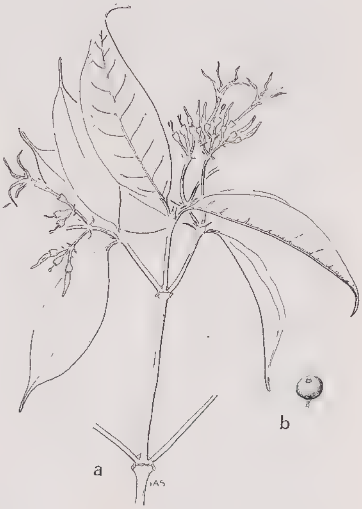


FIGURE 178 (upper left). *Ernodea littoralis*: a, flowering shoot, × 0.33; b, fruit, × 0.3. FIGURE 179 (upper right). *Erithalis fruticosa*: a, flowering shoot, × 0.33; b, fruit, × 0.33; c, old stem with persistent stipules, × 0.33. FIGURE 180 (lower left). *Exostema caribaeum*: × 0.33. FIGURE 181 (lower right). *Faramea occidentalis*: a, flowering shoot, × 0.33; b, fruit, × 0.33.

Erithalis odorifera Jacq., Sel. Stirp. Amer. Hist. 73, *t. 173, f. 23.* 1763.

Type: Martinique. "Plum. ic. 249, f 2".
Syn.: *Erithalis inodora* Jacq., Sel. Stirp. Amer. Hist. 73. 1763. (Type: Curaçao. No Jacquin specimen located.)
Erithalis fruticosa var. *odorifera* (Jacq.) Griseb. Fl. Brit. W. Indian Is. 336. 1861.
Erithalis fruticosa ssp. *odorifera* (Jacq.) Steyermark, Fl. Venez. **9**(2): 869. 1974.

Shrub or tree to 7 m tall, branches subterete. Stipule tubular, 2-3 mm high, teeth 1.2 mm; petioles 0.5-2 cm; blades oblong to obovate, 6-11 × 3-7 cm, base acute, cuneate or decurrent, apex obtuse or rounded, coriaceous, glabrous. Inflorescence axillary, peduncles 4-12 cm long; calyx tube 2-3 mm, with cupshaped broadly toothed limb, teeth deltoid 0.5 mm long; corolla tube 1-2 mm long, lobes 5, linear-oblong, 6-9 mm long; filaments 3-4 mm, anthers linear 5 mm long. Drupe purple, globose, 3-4 mm.

GENERAL DISTRIBUTION: Puerto Rico, Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Eustatius!, St. Kitts!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Bois flambeau, bois chandelle.

NOTES: Various workers have considered *E. fruticosa* and *E. odorifera* as species, subspecies, varieties, or the same taxon. In flowering condition and in leaf size they are apparently distinct and are considered here to be species. Field notes referring to the pleasant odor of the flowers are found only on specimens considered to be *E. odorifera.* However, field studies are needed to determine the variation in leaf size on individual plants and in populations. The possibility of chromosome races or polyploid status is suggested but has not been investigated.

A form name referring to obovate leaves has been seen on specimens collected by Stehlé. No validating reference has been located.

ERNODEA Sw.

Ernodea Sw., Prodr. 29. 1788.

Small shrubs, branches erect or arching and trailing, glabrous. Leaves opposite, often aggregated on short shoots; stipules sheathing, persistent; petioles short or wanting; blades coriaceous or rigid. Flowers axillary, solitary, sessile; calyx limb 4-parted, persistent; corolla salverform, tube cylindrical, glabrous, lobes 4, narrow, valvate; stamens attached at the apex of the throat, throat exserted, filaments filiform, anthers oblong; ovary 2-celled, style exserted, subentire, ovules 1 per cell. Fruit slightly fleshy, pyrenes 2; seeds 2.

TYPE: *Ernodea littoralis* Sw.

A genus of 6 species of Florida and the West Indies.

Ernodea littoralis Sw., Prodr. 29. 1788. FIGURE 178.

Type: Jamaica. Swartz referred to Sloane and Browne descriptions and Moore & Rendle (Fawcette & Rendle, Fl. Jam. **7**(5): 116. 1936) to their specimens. No lectotype has been designated.

Shrub with erect or arching trailing branches to 1 m, stems 4-angled, often reddish in color, glabrous. Stipules sheathing, with filiform lobes 2-3 mm long; petioles wanting or to 2 mm long; blades lanceolate, rarely narrowly ovate or linear, 2-4 × 0.3-0.5 cm, base tapering, apex acute or short-acuminate and pungent, veins ascending from the base, coriaceous or rigid, entire, glabrous. Flowers solitary, axillary, sessile; calyx tube 1 mm long above the ovary, lobes 4, linear-lanceolate, 2-3 mm long in flower, becoming 5-6 mm in fruit; corolla tube cylindrical, 10 mm long, lobes linear-oblong, 7 mm long, reflexed or recurved; filaments to 7 mm long, anthers oblong, to 2 mm long, minutely apiculate. Fruit fleshy, 5 × 3 mm, yellow, crowned by persistent calyx; seeds 1 per locule, oblong, slightly compressed, to 2.5 mm long, with a longitudinal furrow, brown.

GENERAL DISTRIBUTION: Florida, the Bahamas, Greater Antilles, Mexico, Honduras.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin, St. Barts, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!.

COMMON NAMES: Cough bush, wild pomegrati, wild pamgramma, liane-sèche.

EXOSTEMA L. C. Richard

Exostema L. C. Richard ex Humb. & Bonpl., Pl. Aequin. **1:** 131. 1807.

Shrubs or trees. Leaves opposite; stipules small; petioles present; blades membranous. Flowers solitary and axillary or in terminal many-flowered corymbs or corymbose panicles; calyx lobes 5, awl-shaped or triangular; corolla salverform, tube elongate, cylindrical, lobes 5, linear, reflexed, valvate; stamens 5, inserted near base of tube and long exserted, filaments filiform, anthers linear; ovary turbinate, short-stalked, 2-loculed, style filiform, clavate above or stigma elongate oblong, ovules many. Capsule ovoid to subcylindrical, leathery or woody, loculicidally 2-valved, the valves splitting apically; seeds compressed with membranaceous testa and wing.

LECTOTYPE: *Exostema parviflorum* L. C. Richard.

A genus of 50 species of the Greater Antilles, Mexico, Central America, and northern South America.

KEY TO THE SPECIES

Inflorescence corymbose-paniculate; leaves 10-20 cm long..... *E. sanctae-luciae*
Flowers solitary in axils; leaves 3-8 cm long.................... *E. caribaeum*

Exostema caribaeum (Jacq.) Roemer & Schultes, Syst. **5:** 18. 1819.
FIGURE 180.

Basionym: *Cinchona caribaea* Jacq., Enum. Syst. Pl. 17. 1760; Select. Stirp. Amer. Hist. 61, *t. 179, f. 95.* 1763.
Type: No specimens are known and the illustration is of the fruit only. A neotype is needed.

Shrub or small tree to 8 m tall. Stipules broadly ovate, acuminate, 1.5-5 mm long, persisting on old stems; petioles 0.5-1 cm; blades oblong-lanceolate to elliptic, 3-8 × 1-3 cm, base cuneate or obtuse, apex acuminate or acute, membranous, entire, glabrous above and with axillary tufts of hairs below. Pedicels slender, 4-10 mm; calyx teeth broad and abruptly narrowed to a point, to 1 mm long; corolla tube 2-5 cm long, lobes 4-5 cm, usually recurved, white or purplish; exserted portion of filament 2-2.5 cm long, anthers linear, 2-4 cm long. Capsule oblong, 10-15 mm long, 4-5 mm dia, woody; seeds oval 3-6 × 3-4 mm, brown, wing to 1 mm wide.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles, Mexico, Honduras, Guatemala.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, Saba, St. Eustatius, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada.

COMMON NAMES: Greenheart, caribee bark tree, tendre en gomme, quinquina caraïbe, bois chandelle, bois flambeau.

Exostema sanctae-luciae (Kentish) Britten, J. Bot. **53:** 138. 1915.

Basionym: *Cinchona sanctae-luciae* Kentish, New Species of Bark, 52. 1784.
Type: see Notes.
Syn.: *Cinchona floribunda* Sw. Prodr. 41. 1788. (Type: St. Lucia, Martinique, and Hispaniola listed, but no specimens cited.)
Cinchona luciana Vitm., Summa Pl. Suppl. **1:** 264. 1802. n.v. (Type: Not determined.)
Exostema floribundum (Sw.) Roemer & Schultes, Syst. Veg. **5:** 19. 1819.

Tree to 8 m tall, branches glabrous. Stipules interpetiolar, sheathing, to 9 mm long, apex obtuse; petioles stout, to 12 mm long; blades oblong to elliptic, 10-22 × 5-11 cm, base rounded or cuneate, apex acuminate or acute, glabrous and shining above, glabrous below except for axillary tufts of hairs, chartaceous to membranous, entire. Inflorescence terminal, pedicels 5-12 mm long; calyx lobes triangular, subulate, 1-2 mm long; corolla tube 2-3 cm long, lobes linear, 2-3 cm long, white turning pink, red or purple; filaments exserted for 1.5-2 cm, anthers linear 1.5 cm long; stigma clavate. Capsules cylindric, 1.5-3 cm long, to 1 cm dia; seeds oblong, compressed, 4 × 2.5-3 mm, brown, smooth, wing to 1 mm wide.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Quina, chinna, cinchona, quinquina-montagne, quinquina-piton, tabac-montagne, bois-tabac.

NOTES: It was the search for this plant as a source of quinine for the British troops in the Antilles that led to the contact of Anderson with George Young, the first superintendent of the St. Vincent botanic garden, and probably to Anderson's appointment as his successor in 1785. The only record from St. Vincent is a collection by Guilding, probably made from a plant under cultivation in the botanical garden there. Kentish described this species after analyzing bark samples and possibly specimens collected by Anderson on St. Lucia but sent to England via Dr. Davidson. One of the Anderson collections (BM, K) from St. Lucia should be designated as the lectotype.

All material seen from Hispaniola which has been identified as this species is best assigned to *Exostema elliptica* Griseb. *Exostema sanctae-luciae* is considered to be a species limited to the Lesser Antilles.

FARAMEA Aublet

Faramea Aublet, Hist. Pl. Guiane, **1:** 192. 1775.

Shrubs or small trees. Leaves opposite; stipules interpetiolar and awned; petioles present. Inflorescence terminal, pedunculate, corymbose with umbellate clusters; flowers 4-merous; calyx cupular, truncate or dentate; corolla hypocrateriform, glabrous, lobes valvate, stamens inserted in upper portion of tube, included; style glabrous, with linear lobes; ovary 2-locular, ovules solitary, ascending. Fruit a 1-seeded berry, subglobose; seeds globose or reniform, grooved on ventral side.

TYPE: *Faramea corymbosa* Aublet.

A genus of 120 species of tropical America.

Faramea occidentalis (L.) A. Richard, Mem. Rub. 95. 1830. FIGURE 181.

Basionym: *Ixora occidentalis* L., Syst. ed. 10, **2:** 893. 1759.
Type: Jamaica, Browne, Jam. *t. 6, f. 2.* Steyermark (Fl. Venez. **9:** 947. 1974) suggested the type was from Jamaica, thereby selecting the Browne reference over that of Plumier within the references given by Linnaeus.
Syn.: *Coffea occidentalis* Jacq. Enum. Syst. Pl. 16. 1760. (Type: Plumier, "ic 156, f 2.")
Pavetta coffeoides Ham., Prodr. Pl. Ind. Occid. 18. 1825. (Type: St. Kitts, Nevis, *Hamilton s.n.* (n.v.).)
Faramea odoratissima DC. Prodr. **4:** 496. 1830, nom. illegit. citing Jacq.

Tree to 10 m, glabrous. Stipules 2-4 mm with filiform appendage 3-5 mm long; petioles stout, 5-10 mm; blades oblong, oblong-lanceolate to elliptic, 7-20 × 4-10 cm, base obtuse or rounded, apex abruptly acuminate-caudate, tip to 1.5 cm long, subcoriaceous, glabrous. Flowers aggregated in 3's in loose, peduncled compound corymbs; heterostylous; pedicels 5-20 mm; calyx cylindric, truncate, lobed or with teeth 0.5 mm long, 3 mm long; corolla long pointed in bud, tube cylindric, 8-10 mm, long lobes linear, 8-10 mm long; stamens slightly exserted in short style form, included in tube in long style form, filaments 1-2 mm long, anthers 4 mm long, apiculate, short style 3 mm long, bilobed, the lobes 2.5 mm long, long style 12-14 mm long, the lobes 4 mm long. Fruit depressed globose, 8-10 mm diameter, black, 1-seeded; seed attached basally.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, Trinidad, Tobago, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Wild coffee, ti kafé, café bâtard, bois flèche.

NOTES: Heterostyly is clearly evident in Lesser Antillean specimens, although not previously reported. Heteromorphic pollen has been reported for the genus.

GENIPA L.

Genipa L., Syst. Nat. ed. 10, **2:** 931. 1759.

Trees. Leaves opposite, stipules interpetiolar, persistent; petiolate; blades membranaceous. Flowers solitary or in cymes, 5- or 6-parted; calyx campanulate, truncate or lobed, with ring or hairs inside at base; corolla hypocrateriform, tube shorter than lobes, densely gray pubescent outside, long pubescent inside at throat, lobes short gray pubescent both surfaces, stamens inserted in the throat, anthers subsessile, exserted, apiculate, ovary 2-locular, style stout, with 2 oblong lobes, placentation axile, ovules numerous in vertical rows. Fruit globose, pericarp woody; seeds horizontally flattened, embedded in mucilaginous material.

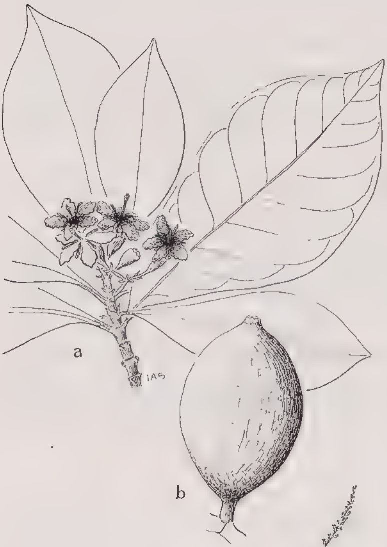
TYPE: *Genipa americana* L.

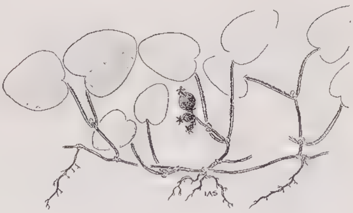
A genus of 6 species of the West Indies and northern South America.

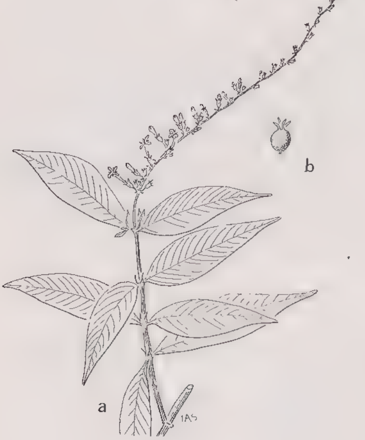
Genipa americana L., Syst. Nat. ed. 10, **2:** 931. 1759. FIGURE 182.

Lectotype: Brazil, Marcgrave (Hist. Nat. Bras. 92. 1642). For discussion see Steyermark (Mem. N.Y. Bot. Gar. **23:** 349. 1972).

Syn.: *Gardenia genipa* Sw. Prodr. 51. 1788, nom. illegit., citing *G. americana* L.
Genipa americana var. *caruto* (H.B.K.) K. Schum. *in* C. Mart. Fl. Bras. **6:** 352. 1889.
Genipa caruto H.B.K. Nov. Gen. Sp. **3:** 407. 1820. (Type: Caracas, Venezuela & Cartagena, Colombia, *Humboldt & Bonpland s.n.* ex Steyermark.)







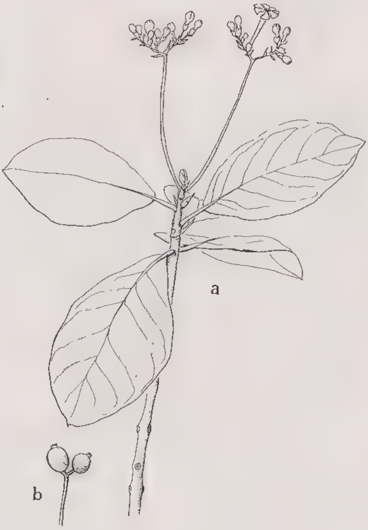


FIGURE 182 (upper left). *Genipa americana*: a, flowering shoot, × 0.3; b, fruit, × 0.3. FIGURE 183 (upper right). *Geophila repens*: × 0.3. FIGURE 184 (lower left). *Gonzalagunia hirsuta*: a, flowering shoot, × 0.3; b, fruit, × 0.3. FIGURE 185 (lower right). *Guettarda scabra*: a, flowering shoot, × 0.3; b, fruit, × 0.3.

Tree to 14 m tall. Stipules broad, triangular, acuminate, 8-12 mm long, glabrous; petioles 1 cm long; blades obovate to oblong, 10-35 cm × 4-12 cm, base narrowed, apex acute, obtuse or short-acuminate. Cymes short-peduncled, pedicels 4-10 mm long, calyx tube 6-8 mm long, glabrous or pilose; corolla tube 2-3 cm long, lobes convolute in bud, oblong, 1-1.8 × 0.8 cm, obtuse, silky pubescent. Filaments to 1 mm long, anthers to 8 mm long with apiculate tip 2 mm; style stout, clavate, bifid. Fruit oblong, 7-10 cm long, 6-7 cm diameter with an indelible stain; seeds numerous, flattened, 4-5 mm long and wide.

GENERAL DISTRIBUTION: Greater Antilles, Central America, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Marie Galante!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAME: Génipa.

NOTES: The genus *Genipa* is described in floras as having bisexual flowers. The specimens on hand, however, have either a cymose inflorescence of 6-12 flowers or fruits, young or old, borne singly or occasionally in pairs from very short pedicels. In appearance these collections suggest staminate and pistillate plants. No young fruit have been found on plants with multiflowered inflorescences. Comparable early flowering stages are lacking for plants producing single fruits. A single collection, *Ekman 12463* (A) from Hispaniola bears label data of "flowers white, female".

Steyermark (1972, p. 346) considered *G. caruto* H.B.K. a variety of *G. americana* differing in the location and the amount of pubescence. He cited as *G. americana* var. *caruto* f. *caruto* the collection of *H. H. & G. W. Smith 1793* from St. Vincent. Anderson described in his Hortus his introduction of this plant from the Guianas to the St. Vincent Botanical Garden. A Guilding specimen (K) appears to be of this introduction, as the Smiths' collection may well be.

GEOPHILA D. Don

Geophila D. Don, Prodr. Fl. Nep. 136. 1825, nom. cons.

Creeping herbs, rooting at the nodes. Leaves opposite, stipules intrapetiolar, triangular-ovate; petioles present; leaf blades cordate. Inflorescence axillary, pedunculate, cymose, bracteate; flowers sessile or short pedicelled, 5-merous, homostylous; calyx lobes linear; corolla hypocrateriform, lobes valvate; stamens inserted in middle of tube, included; style glabrous, clavate, included; ovary 2-loculed, style glabrous, clavate, included, ovules 1 per locule, ascending. Drupe with 2 pyrenes, these costate on convex side, impressed on concave side; seeds 1 per pyrene.

TYPE: *Geophila reniformis* D. Don, nom. illeg. = *G. herbacea* (Jacq.) K. Schum. See Notes.

A genus of 30 species of tropical areas.

Geophila repens (L.) I. M. Johnston, Sargentia **8:** 281. 1949.

FIGURE 183.

Basionym: *Rondeletia repens* L., Syst. ed. 10, **2:** 928. 1759.
Type: Jamaica, *Sloane* (lectotype Sloane Herb. iv. 111).

Glabrous or pubescent, trailing herbs. Stipules intrapetiolar, triangular-ovate, 4 mm; petioles 1-6 cm long, densely hirsute adaxially; blades broadly ovate to suborbicular, 2-5 × 2-3.5 cm, base cordate, lobes overlapping, apex obtuse or rounded, entire or margin undulate, glabrous. Peduncles 1-6 cm long; cymes few- to single- flowered; calyx lobes linear, 2-3 mm long; corolla 7-8 mm long, lobes 3-4 mm, pubescent outside, glabrous within; stamens included, anthers oblong, 1-1.5 mm long; style slender, lobes 2. Drupes globose, 8-12 mm dia, scarlet, persistent calyx lobes to 3.5 mm, pyrenes 2; seeds 2.5 × 4 mm, plano-convex, grooved.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, Barbados.

COMMON NAMES: Ipéca noir, graine dorée, liane-terre.

NOTES: The synonymy and the typification of this taxon are not clear. Most modern treatments in regional floras cite *Geophila herbacea* (Jacq.) K. Schum. *in* Engl. & Prantl, Nat. Pflanzenf. **4**(4): 119. 1899, basionym *Psychotria herbacea* Jacq., Enum. Syst. Pl. 16. 1760, as the correct name or as a synonym. An earlier combination attributed to Kuntze (Revis. Gen. Pl. **1:** 300. 1891) was made in synonymy. Johnston (1949) noted the Linnean epithet was older and proposed the combination used here. However, he stated, ''The species is widely distributed in tropical America and is separable from the plants of the Old World frequently identified with it.'' He failed to indicate how the two were to be separated, and he left no notes or annotations on Asian specimens in A/GH which he might have seen, nor did he lectotypify either name.

Linnaeus published *Psychotria repens* (Syst. Nat. ed. 10, **2:** 928. 1759), the basionym of *Geophila repens* (L.) I. M. Johnston, citing both a Rheede reference and Sloane, Hist. Jam. **1:** 243. Jacquin in publishing *Psychotria herbacea* in 1760 cited only ''Rheede Mal. *t. 21*'' although he later (Sel. Stirp. Amer. Hist. 36, *t. 67.* 1763) elaborated on his earlier description and added references including Browne and Sloane. The Jacquin publication of 1760 can be considered the place of typification of *Psychotria herbacea* on the Indian element cited as Rheede figure 21 although the illustration shows no characters useful in distinguishing the species. Fawcette & Rendle (Fl. Jamaica **7:** 111. 1936) used *G. herbacea* and cited the Rheede reference as well as a specimen in the Sloane herbarium which I have not seen. Fosberg (Smithsonian Contr. Bot. **45:** 27. 1980) published the combination *G. repens* (L.) Johnston var. *asiatica* (Chamisso & Schlechtendal) Fosberg with the basionym of *Geophila reniformis* var. *asiatica* [Rheede ex] Chamisso &

Schlechtendal (Linnaea **4:** 137. 1829). Chamisso & Schlechtendal based the variety on a specimen collected by Chamisso on Guam but also referred to Rheede, Hortus 41, *pl. 21.* 1660. Fosberg stated, ''The Old World populations of *Geophila repens* have pyrenes with flat inner faces, while the New World ones have them consistently curved or warped.'' *Rondeletia repens* L. should be typified by the Sloane reference and material, excluding the Rheede reference. *Geophila reniformis* D. Don was illegitimate when published and would be a synonym of *G. herbacea.* The shape of the pyrene face as described by Fosberg requires verification when more material is available for dissection.

GONZALAGUNIA Ruíz & Pavón

Gonzalagunia Ruíz & Pavón, Fl. Per. Prodr. 12, *t. 3.* 1794, Syst. Veg. Fl. Peruv. & Chil. **1:** 56, *t. 86.* 1798.

Syn.: *Duggena* West, Bidr. Beskr. Ste. Croix 269. 1793, nom. nudum.
Gonzalea Pers., Synop. Pl. **1:** 132. 1805, nom. illeg.

Shrubs or small trees. Leaves opposite, stipules interpetiolar, petioles present or wanting. Inflorescence terminal, spikes or racemes, flowers solitary or fascicled, sessile or short pedicels; flowers 4-merous, heterostylous; calyx with equal or subequal triangular acute lobes; corolla hypocrateriform, villous outside, lobes 4 or 5, valvate or imbricate; stamens inserted in the tube, included or exserted, filaments short; ovary 2-celled, style filiform, included or exserted, bilobed, ovules numerous. Fruit a subglobose drupe, with 2 or 4 pyrenes; seeds several in each pyrene, subglobose, foveolate.

TYPE: *Gonzalagunia dependens* Ruíz & Pavón.

A genus of 40 species of tropical America.

NOTE: Airy Shaw (in Willis 1973) without explanation cited both *Duggena* and *Gonzalagunia.* He attributed the genus *Duggena* to Vahl and suggested there were 22 species of tropical South America and the West Indies. He also accepted the genus *Gonzalagunia* with 35 species and indicated that *Gonzalea* Persoon was a synonym of both genera. Mabberley (1987) has a fairly comparable treatment but ascribes *Duggena* to West. West (1793) gave no generic description for *Duggena*, referring only to *Barleria hirsuta* Jacq. while supplying the new name *Duggena richardii.* The genus *Duggena* is not listed in ING.

Gonzalagunia hirsuta (Jacq.) Schum. *in* C. Mart. Fl. Bras. **6**(6): 291. 1889.
FIGURE 184.

Basionym: *Justicia hirsuta* Jacq., Enum. Syst. Pl. 11. 1760, Select. Stirp. Amer. Hist. 4. 1763.
Type: Martinique, See Notes.
Syn.: *Barleria hirsuta* (Jacq.) Jacq., Obs. Bot. **2:** 7, *t. 32.* 1764.
Lygistum spicatum Lam., Tabl. Encycl. **1:** 286. 1792.

Duggena richardii West, Bidr. Beskr. Ste. Croix 269. 1793, nom. illegit. citing Jacquin.
Gonzalagunia spicata (Lam.) Gomez, Anal. Hist. Nat. Madrid **23:** 289. 1894.
Duggena spicata (Lam.) Standley, Contr. U. S. Natl. Herb. **18:** 126. 1916.
Duggena hirsuta (Jacq.) Britton & Wilson, Bot. Porto Rico **6:** 229. 1925.

Shrub or small tree to 4 m tall. Stipules subulate from triangular base, 4-11 mm long, pilose pubescent; petioles 0.2-2.5 cm long; blades broadly ovate, oblong, elliptic-oblong or lanceolate, 6.5-19 × 2-8.5 cm, base acute to rounded, apex attenuate, appressed pilose below. Inflorescence spiciform 8-40 cm long, cymules 1- to few- flowered, pedicels to 2 mm long; calyx lobes unequal, linear or lanceolate, to 4 mm long, green; corolla salverform, tube cylindric but dilated at top, 10-15 mm long, white, appressed pilose outside, lobes 4-5, rounded, throat densely pilose; stamens 4, borne at apex of tube or within tube, anther oblong 2 mm, style included or exserted, stigma bifid. Fruit fleshy, subglobose, white turning pink, purple or blue, pyrenes 2, 3-4 mm in diameter.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Trinidad, Venezuela, Guiana, Brazil.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Bois-foufou, bois-colibri.

NOTES: The original description by Jacquin is clearly a mixture, as recognized subsequently by Nees, Lindau, and Urban. (Howard, J. Arnold Arbor. **54:** 456. 1973.). The inflorescence and flowers described are those of a member of the Acanthaceae and the foliage that of the present species, a member of the Rubiaceae. The inflorescence and flowers are clearly *Odontonema nitidum* (Jacq.) Kuntze based on *Justicia nitida* Jacq. (Enum. Syst. Pl. 11. 1760), a glabrous plant. The stem and foliage of the original illustration are shown as pubescent, and Jacquin stated that in acquaintance with better material he ordered the plant to be engraved hirsute. However, the stem and foliage can be used to typify the present species, preserving the specific epithet. Selecting a neotype is left to the monographer much needed for this genus.

GUETTARDA L.

Guettarda L., Sp. Pl. **2:** 991. 1753.

Shrubs or small trees. Leaves opposite, rarely ternate; stipules interpetiolar, caducous; blades often scabrous. Inflorescence axillary, pedunculate, branched cymes; flowers secund, perfect or polygamo-dioecious; calyx limb truncate, or irregularly toothed, deciduous; corollas hypocrateriform or salverform, tube cylindrical, straight or curved, lobes 4 to 9, imbricate in bud; stamens 4 to 9, inserted in the throat of corolla, included, anthers sessile or subsessile, included; ovary 4- to 9-celled, style filiform, stigma capitate or short lobed, ovules 1 in each cell, pendulous. Fruit a globose or angled drupe, endocarp bony, 4- to 9-celled.

TYPE: *Guettarda speciosa* L.

A genus of about 100 species, the majority in the West Indies, about 20 in New Caledonia, and one common on tropical coasts.

KEY TO THE SPECIES

1. Trees; fruit acutely angled, quadrangular .... *G. crispiflora*
1. Shrubs; fruit globose to oblong.
    2. Leaves elliptic to obovate, 8-21 cm long, scabrous on upper surface .... *G. scabra*
    2. Leaves elliptic to oblong, to 3 cm long, pilose or glabrous, not scabrous .... *G. odorata*

Guettarda crispiflora Vahl, Eclog. Amer. **1:** 36, *t. 6.* 1796.

Type: Montserrat, *Ryan.*

Trees to 10 m tall. Leaves opposite, stipules ovate, 1-3 cm long, bilobed, apex acuminate, midrib long strigose, caducous; petioles 3-6 cm long; blades ovate to elliptic, 15-24 × 8-15 cm, base cuneate or rounded, apex acuminate, sparsely hirsute above, strigose pubescent along the midrib and veins below. Inflorescence axillary, peduncles 1-2.5 cm, cymose branches usually 2, to 5 cm long, with numerous sessile flowers; calyx 2 mm long, 4- or 5-toothed; corolla 1-1.8 cm long, yellow or red, with long silky pubescence, lobes 5, inflexed in bud, crispose, glabrous within. Fruit 4-angled, 6 mm long, 3- or 4-seeded; seeds oblong, 1.5 mm long.

GENERAL DISTRIBUTION: Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Bois gl'eau, bois flot montagne.

Guettarda odorata (Jacq.) Lamarck, tabl. Encycl. **2:** 219. 1819.

Basionym: *Laugieria odorata* Jacq., Enum. Syst. Pl. 16. 1760; Stirp. Select. Amer. Hist. 64, *pl. 177, f. 21.* 1763.
Lectotype: Cuba, see Notes.
Syn.: *Laugieria odorata* L., Sp. Pl. ed. 2, **1:** 276. 1762. (Type: Cited Jacquin 1760.)
Guettarda parvifolia Sw., Fl. Ind. Occid. **3:** 1958. 1806. (Type: St. Barts, *Fahlberg.*)
Guettarda parviflora Vahl, Eclog. Amer. **2:** 26. 1798. (Syntypes: St. Croix, Montserrat.)

Shrub to 5 m., stipules subulate, 1 mm long; petioles 2.5-4 mm long; blades elliptic to oblong-elliptic, 1.2-3.5 × 0.8-2 cm, base rounded, apex bluntly obtuse to acute, glabrous above, appressed pubescent below on midrib and veins, glabrous on blade. Peduncles 0.7-1.5 cm; calyx limb truncate, tardily caducous; corolla 6-10 mm long, cream or white, pubescent, lobes oblong, 4 × 2-2.5, edges crisped. Fruit globose, 4 mm in diameter, velvety puberulent, 4- or 5-seeded, black.

GENERAL DISTRIBUTION: Puerto Rico, Central America, Venezuela.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Bois guette.

NOTES: Steyermark (Mem. New York Bot. Gard. **23:** 360. 1972) chose a ''plant collected in Cuba as lectotype'' (Herb. Maire, P) but did not make clear whether or not it was a Jacquin collection. The drawing by Jacquin (1763) is of a single flower and a fruit and is inadequate for typification. Jacquin also referred to Colombia in the description, and Steyermark noted that modern collections from the Cartagena area are to be referred to *G. divaricata* (Humb. & Bonpl.) Standley.

Guettarda scabra (L.) Vent., Choix Pl. *t. 1.* 1803. FIGURE 185.

Basionym: *Matthiola scabra* L., Sp. Pl. **2:** 1192. 1753.

Type: Neotype needed. Linnaeus cited a reference to Plumier and, with question, an illustration in Zanoni.

Syn.: *Guettarda rugosa* Sw. Prodr. 59. 1788; Fl. Ind. Occid. **1:** 632. 1797. (Lectotype: Swartz used an * in the original description to indicate he saw material in London which in 1797 he indicated as Dominica, *du Ponthieu*, Mus. Banks.)

Shrub or small tree to 9 m tall. Stipules awl-shaped, to 1 cm long, caducous; petioles 0.5-1.5 cm long, blades elliptical, oblong or obovate, 8-21 × 4-12 cm, base obtuse or rounded, apex rounded and ultimately apiculate, margins undulate, upper surface scabrous. Peduncles 4-5 cm long, branches 4 or 5, to 1.3 cm long; calyx lobes broadly triangular, to 1.2 mm long, densely ferrugineous or golden hirsute; corolla tube cylindrical, 15-18 mm long, white or pinkish, slightly curved, densely hirsute, lobes 5-7, to 6 mm long, margins crispose. Fruit globose, 0.6-1 cm in diameter, often bright red before turning black; 3- to 6-seeded.

GENERAL DISTRIBUTION: Florida, Cuba, Haiti, Puerto Rico, Trinidad.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Pigeon fat, pigeon bay, bois madame, bois noir, bwa madam, bon savage, bois savane, white allee.

NOTES: Herbarium specimens show great variation in size and shape of leaf. Field observations show that these are differences in the leaves of adventitious shoots and those in sun or shade.

HAMELIA Jacq.

Hamelia Jacq., Enum. Syst. Pl. 2, 16. 1760.

Shrubs or small trees. Leaves opposite or in whorls of 3 to 5; stipules entire to lobed, linear to ovate, persistent or caducous. Inflorescence terminal, dichasial or cymose; flowers secund, sessile or pedicellate; calyx lobes 5, ovate to oblong; corolla tubular, inflated towards apex, orange-red to red or yellow; stamens included or exserted, attached at base of corolla, anthers sagittate at base, connective extended; ovary 5-locular, style cylindrical, stigmas 1 to 5, oblong, ovules numerous, placentation axile. Fruit fleshy berry, seeds numerous, plano-compressed, foveolate.

LECTOTYPE: *Hamelia erecta* Jacq. = *Hamelia patens* Jacq.

A genus of 16 species of tropical America. For further information see T. S. Elias, Monograph of the genus *Hamelia*. Mem. New York Bot. Gard. **26:** 81-144. 1976.

KEY TO THE SPECIES

Leaves in whorls of 3 or 4; corolla strictly tubular, 13-20 mm long, red, or orange, generally pubescent . . . . *H. patens*

Leaves opposite; corolla infundibular, expanding gradually or abruptly at apex, to 10 mm long, yellow, puberulous . . . . *H. axillaris*

Hamelia axillaris Sw., Prodr. 46. 1788.

Lectotype: Jamaica, *Swartz s.n.* (S).
Syn.: *Hamelia chrysantha* Jacq., Collectanea **3:** 204. 1789, non Swartz 1788.

Shrub to 4 m tall. Leaves opposite, rarely ternate; stipules narrowly triangular, 2-6 mm long; petioles 1-4.5 cm long; blades narrowly elliptic to broadly-elliptic or obovate, 5-17 × 2-7 cm, base short to long acuminate, apex acuminate, glabrous above. Inflorescence terminal or axillary, compact compound dichasia, solitary, peduncles 0.5-1.2 cm long, flowers secund on branches 6-11; calyx lobes oblong, 1-1.4 mm long; corolla infundibuliform, 1-1.3 cm long, chrome yellow; anthers 5-7 mm long, connective with rounded apical appendage. Berry globose to ellipsoidal, 5-7 mm long, black at maturity; seeds 0.8-1.1 mm long, finely foveolate.

GENERAL DISTRIBUTION: Greater Antilles, southern Mexico, Central America, northern and western South America.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!.

NOTES: A record *Plée s.n.* from Martinique may have been from a cultivated plant.

Hamelia patens Jacq., Enum. Syst. Pl. 16. 1760. FIGURE 186.

Type: Hispaniola, *Jacquin s.n.* (P).
Syn.: *Hamelia erecta* Jacq., Enum. Syst. Pl. 16. 1760. (Type: *Jacquin s.n.*)
Hamelia pedicellata Wernh. J. Bot. (London) **49:** 212. 1911. (Syntypes cited.)
Hamelia latifolia Reichb. ex DC., Prodr. **4:** 442. 1830. (Type: *Sieber* Fl. Trin. *32.*)

Shrubs or trees to 7 m tall. Leaves opposite or commonly in 3's or 4's; stipules triangular to subulate, 2.2-6 mm long; petioles 1-3.4 cm long; blades ovate-elliptic to obovate-elliptic, 5.5-18 × 3-8 cm, base rounded at base, apex acute to acuminate, glabrous to villose above. Inflorescence terminal, modified dichasia, single or fascicled, peduncles 1-4.2 cm long, floral branches often curved, to 4.5 cm long, flowers 4 to 9, secund on each axis; calyx lobes ovate, 0.5-1 mm long; corolla tube narrowly campanulate, 12-22 mm long, orange-red to red, anthers 8-12 mm long, connective forming ovate appendage. Berry ellipsoid to globose, 7-10 mm long, green turning red and black on maturity; seeds 0.6-0.9 mm long, finely foveolate.

GENERAL DISTRIBUTION: South eastern U.S., Greater Antilles, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAMES: Fleur-corail.

HEDYOTIS L.

Hedyotis L., Sp. Pl. **1:** 101. 1753.

Syn.: *Oldenlandia* L., Sp. Pl. **1:** 119. 1753. (Lectotype: *Oldenlandia corymbosa* L.

Herbs. Stipules intrapetiolar; leaves opposite, petiolate or sessile, blades with idioblasts. Inflorescences axillary, flowers solitary, clustered or in pedunculate cymes, 4-merous, isostylous; hypanthium with idioblasts; calyx teeth short; corolla rotate or salverform, tube short, lobes valvate, obtuse; stamens inserted at base of lobes or in tube, filaments short, anthers oblong; ovary 2-loculed, style glabrous or pubescent, stigmas 2, elongate or subglobose, ovules numerous on peltate placentae. Fruit capsular, walls horny or papery, loculicidally dehiscent at the apex or along one side; seeds numerous, angular.

LECTOTYPE: *Hedyotis fruticosa* L.

In the broad sense a genus of nearly 500 species of tropical areas. Opinions vary as to whether *Oldenlandia* and the segregate genera recognized or established by Bremekamp (Vern. K. Nederl. Akad. Wet. Afd. Natuurk. ser. 2, **48**(2): 1-296. 1953) should be recognized or included in *Hedyotis.* Verdcourt (Fl. Trop. E. Africa. Rubiaceae. 269. 1976) concluded: "If all the genera closely related to *Hedyotis* are sunk into it, then it forms an unwieldy unit covering a very wide range of structure and habit." He then maintains nearly all of Bremekamp's genera for Africa. Here we follow Fosberg, Lewis,

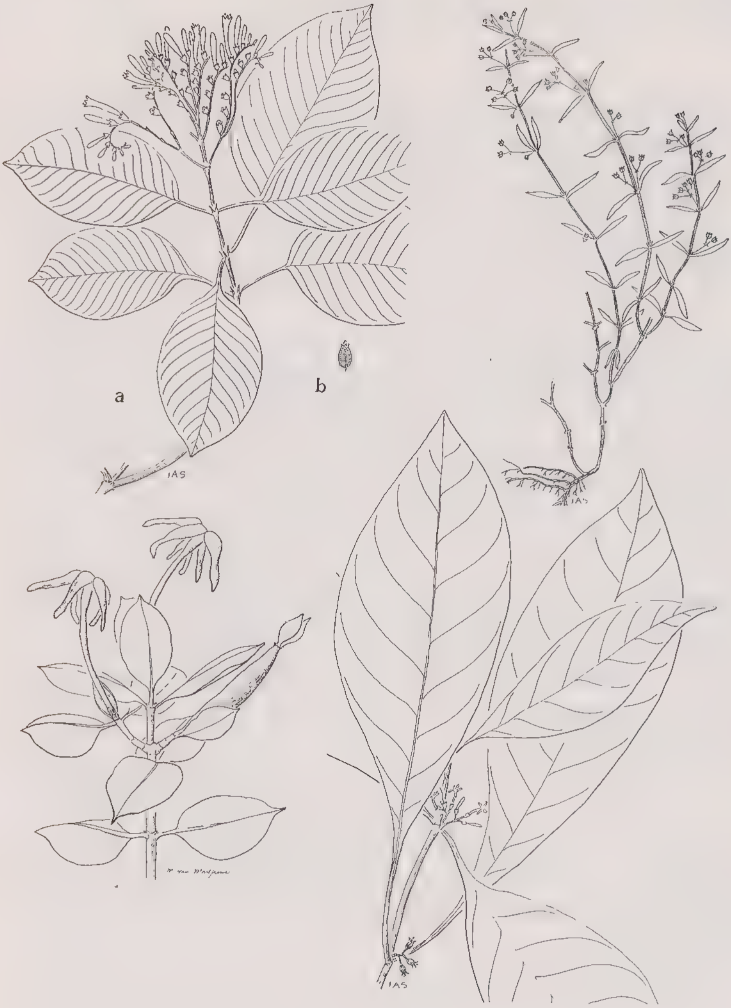


FIGURE 186 (upper left). *Hamelia patens*: a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 187 (upper right) *Hedyotis corymbosa*: × 0.35. FIGURE 188 (lower left). *Hillia parasitica*: × 0.35. FIGURE 189 (lower right). *Hoffmannia tubiflora*: × 0.35.

Shinners and other American authors in combining *Oldenlandia* with *Hedyotis* but recognizing *Pentodon* as distinct.

KEY TO THE SPECIES

1. Leaf blades rhomboid ovate, to 3 mm long, petiolate....... *H. callitrichoides*
1. Leaf blades linear to narrowly oblong, 1.5-3.5 cm long.
   2. Flowers common in stalked cymes; leaves cuneate at base.. *H. corymbosa*
   2. Flowers commonly solitary; leaves mostly rounded at base, sessile........ .... *H. lancifolia*

Hedyotis callitrichoides Griseb., Mem. Am. Acad. n.s. **8:** 506. 1863.

Lectoype: Cuba, *Wright 268* (GOET).

Prostrate herb, forming mats; stems filiform, rooting at the nodes, 2-10 cm long, much branched. Stipules minute, less than 0.5 mm long; petioles slender, 1-1.3 mm long; blades ovate, rhomboid-ovate or oblong, to 0.3 × 0.2 cm, base cuneate, apex acute or obtuse, glabrous. Flowers solitary in axils, peduncles 2-12 mm long; calyx lobes oblong, 0.5 mm long, obtuse; corolla funnelform, 1.5-2 mm long, lobes shorter than the tube, white. Fruit ca. 3 mm long, truncate, smooth, raphides abundant, calyx lobes to 0.6 mm long.

GENERAL DISTRIBUTION: Mexico, Panama, Bahamas, Cuba, Hispaniola.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Guadeloupe!, Dominica!.

COMMON NAMES: Teigne, gazon, véronique, ti-mille-graines.

Hedyotis corymbosa (L.) Lam., Tabl. Encycl. **1:** 272. 1792. FIGURE 187.

Basionym: *Oldenlandia corymbosa* L., Sp. Pl. **1:** 119. 1753.
Type: LINN 155.9.

Annual herb, branches erect or decumbent, 2-5 dm tall. Stipules truncate, 1-1.5 mm long with 1 or more bristles; petioles wanting; blades linear to linear-lanceolate, 1-3 × 0.1-0.3 cm, base narrowed, apex acute, l-nerved, scabrate above. Cymes axillary, few-flowered, peduncles 6-12 mm long, pedicels filiform, 0.5-1.6 cm long; calyx lobes triangular, 1 mm long; corolla 1-1.6 mm long, white. Capsule subglobose, 2 mm in diameter; seeds 0.2-0.3 mm long, brown.

GENERAL DISTRIBUTION: Worldwide as a weed in the tropics.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia, St. Vincent!, Grenada!.

COMMON NAME: Mille-graines.

Hedyotis lancifolia Schumacher, Beskr. Guin. Pl. 72. 1827.

Lectotype: Ghana, *Thonning 210* (C).
Syn.: *Oldenlandia herbacea* authors not L.
Oldenlandia lancifolia (Schum.) DC. *in* DC., Prodr. **4:** 425. 1830.

Hedyotis commutata Schultes, Mant. Pl. **3:** 134. 1827. (Type: Puerto Rico, *Bertero s.n.*)
Oldenlandia macrophylla DC., *in* DC., Prodr. **4:** 427. 1830, non *O. pentandra* Retzius.

Annual, stems weak, often decumbent, to 60 cm long. Stipules 2-5-cuspidate, 2-3 mm long; petioles obsolete to 2 mm long; blades linear to linear-lanceolate, 1-6 × 0.2-1.2 cm, base narrowed, apex acute or acuminate, l-nerved. Flowers solitary or clustered at nodes, pedicels 0.3-2 cm long; calyx lobes triangular, 1-1.8 mm long, acuminate; corolla tube 1 mm log, white, glabrous inside, lobes triangular, 1-2 mm long; style isostylous, slightly exserted. Capsules depressed subglobose, 2.3-3 mm in diameter, slightly beaked; seeds angular, 0.3-0.4 mm dia., pale brown, strongly reticulate.

GENERAL DISTRIBUTION: Africa.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Montserrat!, Guadeloupe!, Martinique.

COMMON NAMES: Mille-graines.

HILLIA Jacquin

Hillia Jacquin, Enum. Syst. Pl. 3. 1760.

Epiphytic or terrestrial glabrous shrubs or vines. Stipules membracous, caducous; leaves fleshy. Flowers solitary or few together, terminal; calyx lobes 2 to 4, caducous, or persistent; corolla salverform, tube elongate, swollen at the apex, lobes 4-6; stamens inserted at base of throat, anthers subsessile, basifixed, included; ovary 2-celled, ovules numerous peltate on fleshy axile placentae, style filiform, stigmas oblong, erect. Capsule cylindrical, 2-celled, septicidally 2-valved; seeds numerous with long tufts of hairs.

TYPE: *Hillia parasitica* Jacq.

A genus of 20 species of tropical America. For further information see Steyermark, Mem. New York Bot. Gard. **23:** 285. 1972.

Hillia parasitica Jacq., Enum. Syst. Pl. 3, 18. 1760; Select. Stirp. Amer. Hist. 96, *t. 66.* 1763. FIGURE 188.

Type: Martinique, *Jacquin*, n.v.
Syn: *Hillia longiflora* Sw. Prodr. 58. 1788, nom. illegit. citing *H. parasitica* Jacq.
Hillia parasitica subsp. *parasitica* Steyermark, Mem. New York Bot. Gard. **23:** 291. 1972.

Climbing epiphytic shrub, rooting along the stems, occasionally free standing in open areas. Stipules linear-lanceolate to broadly oblong, obtuse, caducous; petioles 1.5-3 cm long; blades ovate to elliptic, 5-10 × 3-7 cm, base obtuse to cuneate, apex cuspidate, margin entire, fleshy, glabrous. Flowers solitary; calyx lobes lanceolate, to 4 mm long or caducous or becoming foliaceous in fruit; corolla tube 8-12 cm long, lobes 5 or 6, spreading, oblong, to 5 cm long, cream becoming white and expanding in development. Capsule 6-9 cm long; seeds brown, 15 mm long, hairs forming tuft, to 10 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, Trinidad, Venezuela & Brazil.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua, Saba!, St. Eustatius, St. Kitts!, Montserrat, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados.

COMMON NAMES: Fleur étoile, jasmin-bois.

HOFFMANNIA Sw.

Hoffmannia Sw., Prodr. 30. 1788.

Glabrous or pubescent shrubs or herbs. Stipules interpetiolar, caducous or persistent; leaves opposite or verticillate; petioles rarely with furuncles. Cymes axillary, sessile or pedunculate; hypanthium oblong or turbinate, terete or tetragonous; calyx 4 or 5-lobed, lobes short, persistent; corolla funnelform to almost rotate, lobes obtuse or acute; stamens 4, inserted in corolla throat, filaments short, anthers linear-oblong, bilobed at base, obtuse or apiculate, exserted, disc annular or pulvinate; ovary 2 or 3-celled, style filiform, stigma bilobed, lobes obtuse; ovules numerous, multiseriate, placentae bilamellate. Fruit baccate, small, oblong; 2-celled; seeds numerous, minute, foveolate.

TYPE: *Hoffmannia pedunculata* Sw.

A genus of about 125 species from Mexico through Central America and south to Argentina.

KEY TO THE SPECIES

Cymes sessile or on peduncles 3-4 mm long; corolla tube 6 mm long............ .... *H. tubiflora*

Cymes pedunculate, peduncles 1.2-2.5 cm long; corolla tube 2 mm long......... .... *H. pedunculata*

Hoffmannia pedunculata Sw., Prodr. 30. 1788.

Type: Jamaica, *Swartz* (holotype, BM).
Syn.: *Hoffmannia jamaicensis* Spreng., Syst. Veg. **1:** 416. 1825, nom. illegit. citing Sw.

Shrub 0.6-3 m tall. Stipules caducous; petioles 0.8-4 cm long, commonly ferrugineous villose; blades oblanceolate, obovate or elliptic-obovate, 7.5-19 × 3-6 cm, base long attenuate, apex acute or acuminate, ferrugineous villose on veins beneath. Cymes solitary or fasciculate and sub-umbellate, peduncles 1.2-2.5 cm long, pedicels 2-6 mm; calyx and hypanthium 2 mm long, lobes minute, deltoid; corolla tube 2 mm long, lobes oblong, 4-5 mm long, yellow and red, glabrous. Fruit subglobose, 5 mm in diameter.

General distribution: Jamaica, Lesser Antilles.

Distribution in Lesser Antilles: Guadeloupe (*Duss 1545*).

Common name: Herbe-grand bois.

Note: Duss cited *H. pedunculata* from several locations on Guadeloupe and his collection *1545* which has not been located. Fournet repeated that information. Standley (N. Amer. Fl. **32:** 190. 1934), Fawcett & Rendle, and Adams all regarded that species as endemic to Jamaica.

Hoffmannia tubiflora Griseb., Fl. Brit. W. Indian Is. 321. 1861.
Figure 189.

Type: St. Vincent, *Guilding s.n.* (holotype, k).

Shrub to 1.5 m. tall, glabrous to sparsely ferrugineous pubescent. Stipules interpetiolar, oblong, 3-4 mm long, early caducous; petioles 1.5-3.5 cm long, glabrous; blades elliptic to elliptic-oblong, 7.5-21 × 3-6.5 cm, base acute, acuminate or attenuate, apex acuminate to cuspidate-acuminate, membranaceous, sparsely ferrugineous pubescent or glabrate. Cymes axillary, few-flowered, peduncles to 4 mm long; calyx and hypanthium to 2.5 mm long, villose or glabrate, lobes minute, deltoid; corolla tube to 6 mm long, yellow, lobes oblong, to 5 mm long, yellow; anthers partly exserted. Fruit oblong, 6 mm long or larger, crimson red; seeds minute, brown, coarsely foveolate.

General distribution: Endemic to the Lesser Antilles.

Distribution in Lesser Antilles: Guadeloupe!, Martinique!, St. Vincent!, Grenada!.

Common name: Herbe-grand bois.

IXORA L.

Ixora L., Sp. Pl. **1:** 110. 1753.

Syn.: *Sideroxyloides* Jacq., Select. Stirp. Amer. Hist. 19. 1763. (Type: *S. ferreum* Jacq.)
Siderodendrum Schreb., Gen. Pl. **1:** 71. 1789, nom. illegit. citing *Sideroxyloides* Jacq.

Shrubs or small trees. Stipules interpetiolar, subpersistent; leaves opposite or ternate; petiolate or subsessile; blades coriaceous. Inflorescence terminal, paniculate or corymbose, with linear or subulate bracts; flowers 4-parted; calyx lobes short; corolla salverform, or hypocrateriform, tube slender, lobes contorted, white, pink, red or orange; stamens inserted in throat, slightly exserted, disc annular, style glabrous, lobes recurved; ovary 2-loculed, ovules 1 in each locule, peltate. Fruit a globose drupe with 2 crustaceous pyrene, seeds concave-convex or semiglobose with a deep and wide excavation on inner face.

LECTOTYPE: *I. coccinea* L.

A genus of about 400 species aboundant in tropical Africa and Asia.

KEY TO THE SPECIES

1. Inflorescence axillary, usually below the leaf-bearing nodes; flowers white . . . . *I. ferrea*
1. Inflorescence terminal.
   2. Inflorescence compact; corolla tube 30-40 mm long.
      3. Leaves sessile or subsessile; corolla red or orange, cultivated . . . . *I. coccinea* L.
      3. Leaves obviously petiolate; corolla white, cultivated . . . . *I. finlaysoniana* Wallich
   2. Inflorescence cymose paniculate, spreading; corolla tube 3-5 mm long, cultivated . . . . *I. parviflora* Vahl

Ixora ferrea (Jacq.) Bentham, Linnaea **23:** 447. 1850. FIGURE 190.

Basionym: *Sideroxyloides ferreum* Jacq., Select. Stirp. Amer. Hist. 131, *t. 175, f. 9.* 1763.
Type: Martinique, l.c. *t. 175, f. 9,* no Jacquin specimens seen.
Syn: *Siderodendrum triflorum* Vahl, Eclog. Amer. **1:** 10. 1796, nom. illegit. citing Jacq.

Shrub or tree to 10 m, glabrous. Stipules acuminate or subulate-cuspidate, 4-9 mm long; petioles 3-12 mm long; blades narrowly oblong-elliptic, 7.5-19.5 × 2.5-7.5 cm, base and apex short acuminate to acute. Inflorescence axillary or borne below the leaves, sessile or nearly so, pedicels 2-3 mm long; hypanthium 1.5 mm long; corolla tube 8-9 mm long, lobes ovate, 3 mm long, white turning pink. Fruit globose or occasionally bilobed, 1 cm in diameter, black; seeds 5 mm long, dark brown.

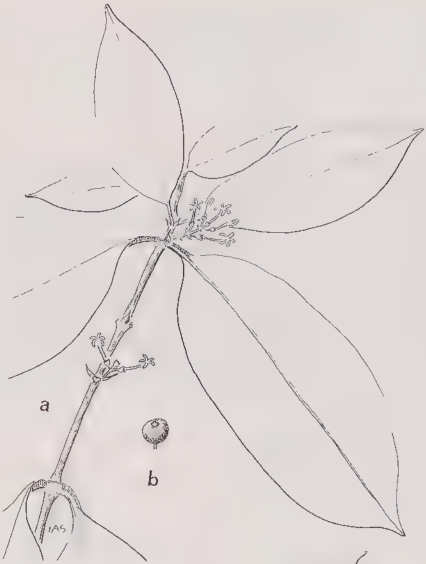
GENERAL DISTRIBUTION: Cuba, Puerto Rico.

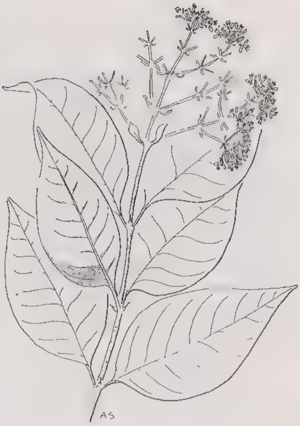
DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines, Grenada!, Barbados.

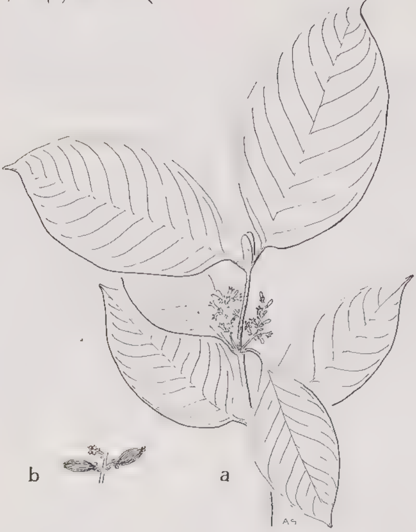
COMMON NAMES: Café grand bois, bois jaune, bois-baguette, bois de fer rouge, bwa glo savann, bois de l'eau.

ADDITIONAL CULTIVATED TAXA

I. chinensis Lam. Currently cultivated on Montserrat.
I. duffii T. Moore. Currently cultivated on Martinique and St. Lucia.
I. laxiflora Sm. Reported from Martinique by Duss.
I. odorata Hooker. Reported from Antigua, Guadeloupe and Martinique by Duss.







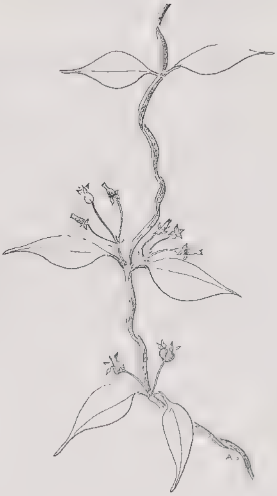


FIGURE 190 (upper left). *Ixora ferrea*: a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 191 (upper right). *Machaonia martinicensis*: × 0.35. FIGURE 192 (lower left). *Malanea macrophylla*, a, flowering shoot, × 0.35; b, fruit, × 0.35. FIGURE 193 (lower right). *Manettia dominicensis*: × 0.35.

MACHAONIA Humb. & Bonpl.

Machaonia Humb. & Bonpl., Pl. Aequin. **1:** 101. 1806.

Syn.: *Tertrea* A. P. DC., *in* DC. Prodr. **4:** 481. 1830 (Type: *T. martinicensis* (Rich.) DC.)
Schiedea A. Rich., Mem. Rub. 106. 1829 (1830); Mém. Soc. Hist. Nat. Paris **5:** 186. 1834, non Schlecht. & Cham. 1826.

Shrubs or small trees, glabrous or pubescent, often spinose. Stipules intrapetiolar, triangular, acute or acuminate; leaves opposite or ternate, sometimes fascicled, petiolate or sessile. Inflorescence terminal, flowers small, white, hypanthium turbinate; calyx 4 or 5-lobed, lobes persistent; corolla short funnelform, tube short, throat villose, limb 4 or 5-lobed, lobes imbricate, rounded; stamens inserted in throat, filaments short or elongate, anthers short-oblong, included or exserted; disc fleshy; ovary 2 or 3-celled, style filiform, branches 2, ovulate solitary, pendulous. Fruit dry, obpyramidal or oblong, laterally compressed, dicoccus, cocci indehiscent, finally pendulous from persistent axis; seeds cylindric, elongate.

TYPE: *Machaonia acuminata* Humb. & Bonpl.

A genus of 25 species of tropical America. For further information see Standley, N. Amer. Fl. **32:** 215. 1934.

Machaonia martinicensis (DC.) Standley, Publ. Field Mus. Nat. Hist. Bot. ser. **22:** 193. 1940. FIGURE 191.

Basionym: *Schiedea martinicensis* (DC.) A. Rich., Mem. Rub. 107. 1829 (1830).
Type: Martinique, *Richard s.n.* (holotype, P!).
Syn.: *Tertrea martinicensis* DC. Prodr. *4:* 481. 1830.
Machaonia rotundata Griseb., Fl. Brit. W. Indian Is. 348. 1861. (Lectotype: Jamaica, *Wilson* (GOET.).)

Shrub or small tree, to 3 m tall, lateral short branches terminating in a spine. Stipules deltoid, 3-4 mm long, subulate-acuminate; petioles 3-10 mm long, puberulent or glabrate; blades elliptic, broadly ovate, elliptic-oblong to suborbicular, 5-9 × 2-5.5 cm, base rounded to acute, apex short acuminate, barbate in axils below, otherwise glabrous. Inflorescence terminal, paniculate, 6-13 cm broad, flowers densely glomerate, sessile; calyx lobes 5, oval-oblong; unequal, to 1.3 cm long; corolla funnelform, 4-5 mm long, white, sparsely villose to glabrate, lobes oblong, obtuse, throat densely white barbate, anthers exserted, disc fleshy. Fruit cuneate-oblong, 4.5-6 mm long, brown, glabrous or nearly so.

GENERAL DISTRIBUTION: Jamaica, Costa Rica, Panama, Colombia.

DISTRIBUTION IN LESSER ANTILLES: Martinique!.

NOTES: The name of this species should be attributed to deCandolle alone as was done by Standley (1940) and Dwyer (Ann. Missouri Bot. Gard. **67:** 273. 1980). The details of publication are given in TL II (**4:** 761-2. 1983). The Prodromus reference clearly indicates a new combination is proposed, although the Richard name was known only through prepublication proof sheets and possibly inserted by Guillemin. The species was not listed by Fournet and has not been recollected in the Lesser Antilles. Adams regarded *M. rotundata* Gris. as endemic to Jamaica.

MALANEA Aublet

Malanea Aublet, Hist. Pl. Guiane **1:** 106, *t. 41.* 1775.

Shrubs with climbing branches or vines. Leaves opposite, petiolate; stipules interpetiolar, large, glandular at base inside, caducous. Inflorescence axillary, paniculate with spikelike branches or spicate with fascicled flowers; bracts and bracteoles small, flowers 4-parted; calyx campanulate, lobes triangular; corolla hypocrateriform, lobes valvate, throat villous; stamens inserted in the throat, exserted, anthers dorsifixed or basifixed, oval to oblong; disc annular; ovary bilocular, style 2-lobed, exserted, ovules solitary and pendulous in each locule. Fruit drupaceous, ovoid, with 1 or 2 pyrenes; seeds cylindrical.

TYPE: *Malanea sarmentosa* Aublet.

A genus of 21 species of tropical America.

Malanea macrophylla Bartling ex Griseb., Fl. Brit. W. Indian Is. 337. 1861.
FIGURE 192.

Lectotype: St. Vincent, *Guilding s.n.* (K!).
Syn.: *Malanea megalantha* Wernham, J. Bot. **51:** 221. 1913. (Type: Trinidad, *Broadway 4024* (holotype, K!).)

Scandent shrub, branches strigillose. Stipules oblong or oval, 9-12 mm long, strigose at base, caducous; petioles 12-18 mm long, strigillose; blades elliptic to oval, 8-12 × 4-8 cm, base rounded, acute or slightly decurrent, apex short acuminate to rounded, subcoriaceous, strigillose on veins and margin below. Panicles terminal, short pedunculate, many-flowered; hypanthium 1.5 mm long. glabrous; corolla tube 4 mm long, lobes oblong-ovate, obtuse, appressed short pilose outside, villose within, pale yellow. Fruit cylindric, 11-13 mm long, 3-4 mm in diameter, 1-celled, bluish-black, endocarp vertically ridged and grooved, slightly flattened on one face; seed terete, brown, 9 mm long.

GENERAL DISTRIBUTION: Trinidad, Tobago, Guyana.

DISTRIBUTION IN LESSER ANTILLES: St. Lucia!, St. Vincent!, Grenada!.

NOTES: *Malenea macrophylla* was listed by Schomburgk (Fauna, Flora Britisch-Guiana 947. 1848) and attributed to Bartling but without diagnosis. Standley (N. Amer. Fl. **32:** 223. 1934) reported the type locality to be "Banks of the Morocco [Moruka], British Guiana." The name was validly published by Grisebach, who attributed the name to Bartling, cited Guiana in parentheses, and listed a Guilding specimen from St. Vincent and a Crüger specimen from Trinidad. Dandy (pers. comm.) suggested the lectotype should be the Guilding specimen at Kew, the better of the two specimens.

MANETTIA L.

Manettia L., Mant. Pl. 553. 1771, nom. cons.

Syn.: *Lygistum* P. Br., Civ. Nat. Hist. Jam. 142. 1756, (Type: *Petesia lygistum* L. = *Manettia lygistum* (L.) Sw.)

Slender climbing shrubs. Stipules small, persistent, interpetiolar, persistent; leaves opposite, petiolate. Inflorescences axillary, cymose, or flowers solitary; calyx lobes small, 4, with teeth or small glands between the lobes; corolla salverform, tube funnelform or cylindrical, lobes 4, valvate; stamens 4, inserted at mouth of tube, included or exserted, filaments short, anthers versatile; ovary 2-celled, style filiform, bifid, ovules numerous. Capsule turbinate or obovoid, 2-celled, septicidally dehiscent, many-seeded; seeds small, winged.

TYPE: *Manettia reclinata* L.

A genus of about 80 species of tropical America.

Manettia dominicensis Wernh., Britten, J. Bot., Suppl. 37. 1919.
FIGURE 193.

Syntypes: Dominica: *Ponthieu, Ramage, Imray 2165, Eggers 53*; St. Vincent; *H.H. & G.W. Smith 730.*

Climbing vine, stems minutely hirtellous on angles. Stipules small, deltoid, acute; petioles to 1 cm, blades ovate, 5-9 × 3-5 cm, base subrounded, apex acuminate. Flowers in umbels, pedicels equally long, densely hirtellous; calyx lobes 4, narrowly linear ovate, 5-7 mm long, 2.5 mm broad at the base; corolla hypocrateriform, tube to 8-10 mm long, outside puberulous, barbate in throat, lobes oblong-lanceolate 5.5 mm long, fimbriate inside, white. Capsule depressed subglobose, 6 mm long, sometimes broader than long, glabrescent; seeds 1.5 mm in diameter, brown, wings papery, margins erose.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique, St. Vincent!.

NOTES: In his monograph of *Manettia* Wernhan recognized *M. calycosa* Griseb. as occurring in Haiti (Schomburgk), Colombia and Venezuela. He also reported from "Dominica" *M. coccinea,* and he described *M. dominicensis* as new, citing specimens from Dominica and St. Vincent. In a key he distinguished *M. calycosa* as having corollas 2 cm or more in length and swollen at some point in its length from *M. coccinea* and *M. dominicensis,* with corollas hypocrateriform to infundibular and less than 1.5 cm in length. Further, *M. coccinea* had 8 calyx lobes and *M. dominicensis* 4 calyx lobes. The only record of *M. coccinea* he cited was a Guilding collection from St. Vincent. *Manettia coccinea* (Aublet) Willd. Sp. Pl. ed. 4, **1:** 624. 1797 is based on *Nacibea coccinea* Aublet, Hist. Pl. Guiane **1:** 96, *t. 37, f. 1.* 1775, and has red corollas and 8 calyx lobes. The Guilding specimen may have been from a plant in cultivation in the St. Vincent Botanic Garden. Anderson indicated in his Hortus he had introduced such a plant from Trinidad. This is presumably the record Moore & Rendle cited in Fawcett & Rendle (Fl. Jam. **7**(5): 7. 1936) as *M. uniflora* from St. Vincent.

Grisebach's description of *Manettia calycosa* is difficult to understand and may be a mixture of characters and specimens. He cited only *Imray*, without collector's number, from Dominica, qualifying this as a ''form with ovate-lanceolate calyx lobes,'' and referred to material seen from Haiti and Venezuela. The latter was cited as *Fendler 588* (Chung says *585*), which is a syntype of *Manettia calycosa* var. *karsteniana* Schumann, Mart. Fl. Bras. **6**(6): 175. 1889, according to Steyermark (Mem. New York Bot. Gard. **23:** 238. 1972). Chung added to the confusion (Phytologia **15:** 277. 1967) when he designated as the ''type'' (lectotype) of *M. calycosa* Griseb. the collection *Imray 65* (GOET), stating, ''The corolla and the two capsules in the envelope should be the type. The branch with leaves and capsules is *M. dominicensis* Wernh.'' Unfortunately he also believed the *Imray* material was from Haiti when it is in reality from Dominica. It is of course possible that the fragments in the envelope on *Imray 65* (GOET) came from other collections Grisebach was handling while at Kew, but this can never be determined with certainty. It is more reasonable to correct the lectotypification proposed by Chung in his unfinished series of papers, designate the *Schomburgk* collection at Kew from Haiti as the lectotype, and consider the packet material on *Imray 65* (GOET) as from unknown sources.

MITRACARPUS Zuccarini ex J. A. Schultes

Mitracarpus Zuccarini ex J.A. Schultes & J. H. Schultes, Mant. Pl. **3:** 210. 399. 1827.

Annual or perennial herbs, often woody at base; stems 4-angled, pubescent. Stipules united with petioles forming a bristly sheath; leaves opposite, petiolate. Flowers small, surrounded by long hairs, 4-parted, sessile in axillary clusters or terminal heads; hypanthium subglobose, lobes 2 long and 2 short; corolla tubular, lobes 4, valvate; stamens inserted at mouth of tube, exserted, dorsifixed; disk of 2 glands; ovary 2-loculed, style with bifid stigmas, ovules solitary in each cell, ascending. Capsule membranous, subglobose, dehiscing circumscissily, upper part with crown of sepals; seeds ellipsoid, ventrally 4-lobed by a cross-shaped furrow.

TYPE: *Mitracarpus scaber* Zucc.

A genus of 30 species of the American tropics.

KEY TO THE SPECIES

Perennial herb; leaves linear to linear-lanceolate; axillary shoot leaves conspicuous .... *M. polyclados*

Annual herbs; leaves oblong to elliptic; axillary shoot leaves small and not evident .... *M. hirtus*

Mitracarpus hirtus (L.) A. P. deCandolle, Prodr. **4:** 572. 1830.

FIGURE 194.

Basionym: *Spermacoce hirta* L., Sp. Pl. ed. 2, **1:** 148. 1762.
Type: Uncertain. See Notes.
Syn.: *Spermacoce villosa* Sw., Prodr. 29. 1788. (Type: Jamaica, *Swartz s.n.* (holotype, BM).)
Mitracarpus villosus (Sw.) Chamisso & Schlechtendal ex A. P. Candolle, Prodr. **4:** 572. 1830.

Annual herb, to 50 cm tall, stem commonly branched from base, villous below the nodes. Stipular sheath shallow, equal to bristles, bristles 8-10; petioles short or blade subsessile; blades oblong to lanceolate, 5 × 1.5 cm, base narrowed, apex blunt or acute, upper surface with scabrous hairs. Flowers clustered, short-stalked; hypanthium hairy, lobes awl-shaped, to 1.5 mm long, pilose, connate at base; corolla tube 1.8 mm long, lobes ovate, to 0.6 mm long, white; anthers short oblong, glandular apiculate, sessile; style included or exserted. Capsule globose, 1 mm long, membranous, upper portion hairy, seeds quadrangular, pale brown, minutely pitted.

GENERAL DISTRIBUTION: Florida, Texas, Haiti, Jamaica, Mexico, Panama, Guyana, Venezuela, Brazil, Africa.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica, Martinique!, Grenada!.

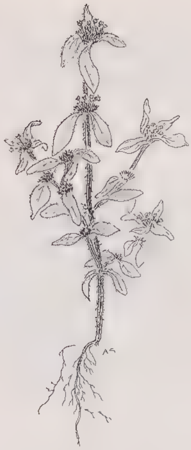
COMMON NAME: Herbe à macornet.

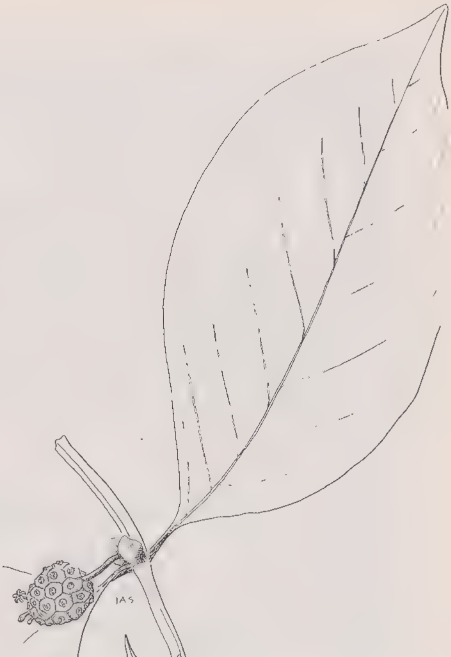
NOTES: For a discussion of the correct nomenclature of this species see Steyermark, Mem. New York Bot. Gard. **23:** 782. 1972; Verdcourt, Kew Bull. **30:** 317-322. 1975; Ward, Rhodora **78:** 674-680. 1976; Nicolson, Taxon **26:** 569-574. 1977, and Tjaden, Taxon **30:** 301. 1981. Verdcourt suggested the type to be LINN 125.8, as did Ward, although Dwyer (Ann. Missouri Bot. Gard. **67:** 284. 1980) designated LINN 125.4 as the lectotype.

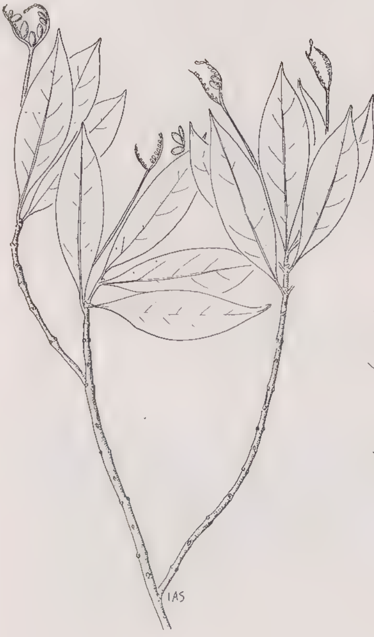
Mitracarpus polycladus Urban, Symb. Antill. **3:** 389. 1903.

Type: Puerto Rico, *Sintenis 3750.*
Syn.: *Mitracarpus polycladus* Urban var. *sabensis* Urban, Symb. Antill. **7:** 551. 1913. (Type: Saba, *Boldingh 1377.*)

Woody perennial branched from base, stems to 45 cm tall, 4-angled, glabrous. Stipule sheath with numerous setae, to 3 mm long; petioles obsolete, blades linear to linear-lanceolate, 3-4.5 × 0.3-0.4 cm, base decurrent, apex acute to apiculate, margins often inrolled, glabrous, axillary shoots with well developed leaves. Inflorescence capitate, terminal, 8-13 mm in diameter,







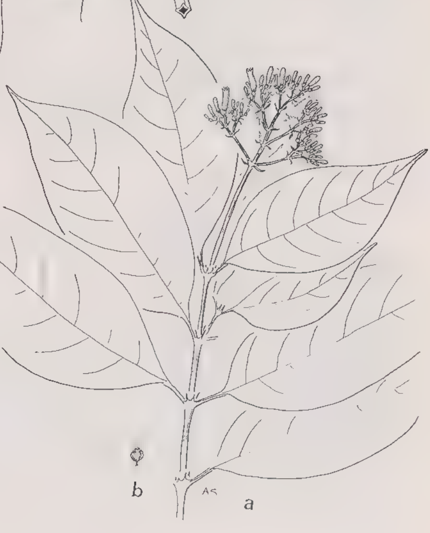


FIGURE 194 (upper left). *Mitracarpus hirtus*: × 0.3. FIGURE 195 (upper right). *Morinda citrifolia*: × 0.3. FIGURE 196 (lower left). *Neolaugeria resinosa*: × 0.3. FIGURE 197 (lower right). *Palicourea crocea*: a, flowering shoot, × 0.3, b, fruit × 0.3.

many-flowered, subtended by 3 leaves, one larger than the others; lateral sepals 2-3 mm long, ovate-lanceolate, ciliolate; corolla 5 mm long, white. Capsule 1.5 mm in diameter, circumscissile below the middle; seeds black.

General distribution: Puerto Rico.

Distribution in Lesser Antilles: Saba!.

Notes: An examination of isotype collections does not support Urban's description of the species as annual plants, nor are the calyx lobes regularly of the dimensions given as diagnostic characters. An isotype (NY) and a dozen additional recent collections from Saba suggest the variety *sabensis* is a perennial as was the species and is not puberulent. *M. polyclados* resembles species of *Spermacoce* in general appearance, and several specimens are so annotated; however, all have circumscissile capsules. The genus needs a revisionary treatment, and there is probably an older name from this species.

MORINDA L.

Morinda L., Sp. Pl. **1:** 176. 1753.

Shrubs or small trees. Stipules interpetiolar, connate, usually bifid, persistent; leaves opposite, petiolate, often subcoriaceous. Inflorescences extra-axillary or initially terminal pedunculate or subsessile subglobose heads, ovaries united at the base; calyx with short tube, truncate, lobes minute; corolla infundibuliform or hypocrateriform, lobes 4 to 7, valvate; stamens inserted in the tube, included, the connective extended; disk annular, ovary 4-locular, style bifid, slightly exserted, ovule solitary in each cell, ascending. Fruit a fleshy syncarp; each segment with a 2-celled pyrene.

Lectotype: *M. royoc* L.

A genus of 80 species mostly of the Old World.

Morinda citrifolia L. Sp. Pl. **1:** 176. 1753. Figure 195.

Type: LINN 236.1.

Shrub or small tree to 6 m, usually densely branched glabrous. Stipules oblong or oval, 1-2 cm long and broad; petioles 1-2 cm long, slightly alate; blades broadly ovate or elliptic, 17-30 × 8-18 cm, base rounded, apex acute or short-acuminate, glabrous except for tufts of axillary hairs. Peduncles 1-3 cm long, axillary or leaf-opposed. Flower heads globose, 1.5 cm in diameter, flowers sessile; corolla tube 6 mm long, glabrous outside, villose in throat; stamens 5, inserted at mouth of corolla, exserted, anthers linear-oblong, to 5.5 mm long; style exserted, stigmas narrowly oblong, to 5 × 0.8 mm long and wide. Syncarp oval or globose, 5-7 cm long, 3-7 cm in diameter, fleshy, malodorous, drying black.

General distribution: Tropical Asia and Australia, introduced into the New World.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, Martinique! St. Lucia!, St. Vincent!, Barbados!.

COMMON NAMES: Jumbie breadfruit, hog apple, pain killer, feuille froide, rhubarbe caraïbe, bilimbi, pomme-macaque, pomme de singe.

NEOLAUGERIA Nicolson

Neolaugeria Nicolson, Brittonia **31:** 119. 1979.

Syn.: *Laugeria* Vahl ex Hooker *in* Bentham & Hooker, Gen. Pl. **2:** 101. 1873, non *Laugieria* Jacquin (1760) nor *Laugeria* L. (1764). (Lectotype: *Laugeria resinosa* Vahl.)
Terebraria A. P. de Candolle ex Kuntze *in* Post & Kuntze, Lex. 552. 1903, non Greville (1864). (Lectotype: *Laugeria resinosa* Vahl = *T. resinosa* (Vahl) Sprague.)

Resinous shrubs or small trees. Stipules intrapetiolar, sheathing, connate, persistent; leaves opposite, coriaceous, petiolate, resinous. Inflorescence axillary, peduncled cymes, the flowers secund; hypanthium short, limb subtruncate; corolla funnelform, lobes 4 or 5, imbricated; stamens 4 or 5, inserted on the corolla tube, filaments filiform, anthers linear; ovary 3- to 5-celled, style thick, stigma subcapitate, 4- or 5-lobed, ovules 1 in each locule. Fruit drupaceous, oblong, endocarp ridged; seeds oblong.

LECTOTYPE: *Laugeria resinosa* Vahl = *Neolaugeria resinosa* (Vahl) Nicolson.

A genus of 3 species of the Greater and Lesser Antilles.

Neolaugeria resinosa (Vahl) Nicolson, Brittonia **31:** 121. 1979.
FIGURE 196.

Basionym: *Laugeria resinosa* Vahl, Eclog **1:** 26, *t. 10.* 1796.
Type: Montserrat, *Ryan s.n.* (C!).
Syn.: *Stenostomum resinosum* (Vahl) Griseb., Fl. Brit. W. Indian Is. 334. 1861.
Antirrhoea resinosa (Vahl) Cook & Collins, Contr. U.S. Natl. Herb. **8:** 82. 1903.

Shrub of 2-3 m, rarely a small tree, all parts resinous-viscid. Stipular sheath 3-4 mm long, truncate, ciliate, persistent; petioles 5-6 mm long; blades oblong to oblong-lanceolate, 5-11 × 2-3 cm, base cuneate to decurrent, apex bluntly acuminate, conspicuously resinous. Inflorescence axillary, peduncles 6-8 cm long, cyme branches 1.5-2 cm long, few-flowered; secund; calyx 1.5-2 mm long, fringed or ciliolate; corolla tube 4-6 mm long, lobes 2-3 mm long, white, resinous. Drupe oblong, 5-6 mm long, black, endocarp ridged; seed 1 per locule, cylindrical, 2.5 mm long.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAME: Bois de fer blanc.

PALICOUREA Aublet

Palicourea Aublet, Hist. Pl. Guiane **1:** 172. 1775.

Shrubs or small trees. Stipules united, bilobed between the petioles, glandular inside; leaves opposite or ternate, petiolate or sessile. Inflorescence terminal, paniculate or corymbose, bracts small; flowers 4 or 5-merous, heterostylic; calyx lobes ovate; corolla subcylindric to narrowly funnelform, with a unilateral swelling near base, with a ring of hairs inside above the swelling, glabrous outside, lobes valvate; stamens inserted mid-length of tube, anthers dorsifixed, exserted or included; disk annular or 2-lobed, ovary 2-, 3-, or 4- celled, style with 2, 3 or 4 filiform branches, exserted or included, ovules solitary in each cell, ascending. Fruit a drupe, with 2 or 4 costate pyrenes; seeds with an intrusion of the testa on the inner face.

TYPE: *Palicourea guianensis* Aublet.

A genus of 250 species of tropical America. *Palicourea alpina* (Sw.) DC., a species of the Greater Antilles, was reported from Guadeloupe by Grisebach, Stehlé and Fournet, but the record cannot be verified with specimens.

KEY TO THE SPECIES

Calyx lobes 4-5 mm long .... *P. martinicensis*
Calyx lobes 1.5 mm long .... *P. crocea*

Palicourea crocea (Sw.) Roemer & Schultes, Syst. Veg. **5:** 193. 1819, as *Palicurea*. FIGURE 197.

Basionym: *Psychotria crocea* Sw., Prodr. 44. 1788.
Type: Jamaica, *Swartz s.n.* (holotype, BM).
Syn.: *Palicuria croceoides* Ham., Prod. Pl. Ind. Occid. 29. 1825. (Type: Antilles, not further indicated.)
Palicourea riparia Bentham, J. Bot. (Hooker) **3:** 224, 1841. (Type: British Guiana, *Schomburgk 337* (holotype, K).)
Palicourea crocea DC. var. *riparia* (Bentham) Griseb., Fl. Brit. W. Indian Is. 345. 1864.

Shrubs or small trees to 6 m tall, usually glabrous. Stipule sheath 0.2-0.6 mm long, lobes 1.5-2.5 mm long, triangular to linear, acute; petioles 0.5-1 cm long; blades elliptic, 7-14.5 × 3.5-5.5 cm, base acute to cuneate, apex acute to acuminate with acumen 0.5-1 cm, membranaceous, glabrous or minutely puberulous. Inflorescence cymose, widely to narrowly pyramidal to corymbose, peduncles 3-6.5 cm, axes orange, red, pink, scarlet or purple; calyx lobes ovate to triangular, 0.5 mm long; corolla tube 7-9 mm long, glabrous outside, pilose in a ring above base inside, lobes 1.5-2 mm long, yellow, red, orange or pink; long styles 10-11 mm long, short styles 6 mm long. Fruit ovoid to globose, 4-6 mm long and wide, pyrene ridges rounded, inner face flat with longitudinal groove.

GENERAL DISTRIBUTION: Greater Antilles, southern Mexico, Central America, south to Brazil and Paraguay.

Distribution in Lesser Antilles: Antigua!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Common names: Bois noir, bois puce, bwa kabwit, bois cabuit.

Palicourea martinicensis Standley, Publ. Field Mus. Nat. Hist. Bot. Ser. **11:** 230, 1936.

Type: Martinique, *Hahn 802* (holotype, p).

Shrub, glabrous. Petioles 4-9 mm long; blades elliptic to broadly elliptic-oblong, 4-7.5 × 1.7-4 cm, base acute or obtuse and decurrent, apex long acuminate. Inflorescence peduncle 2 cm long, flowers congested on branches, sessile or on pedicels to 6 mm long; calyx lobes linear-attenuate to lanceolate-oblong, 4-5 mm long, persistent; corolla unknown. Fruit broadly ovoid-globose, 8 mm long, pyrenes 2, costate dorsally.

General distribution: Known only from Martinique.

Note: This is known from two collections by Hahn, *802* from Piton de l'Alba, *198* from Casa Pilote and *Stehlé 2642* from 1200 m on Piton du Carbet. None of the specimens has a mature corolla. Standley was uncertain of the generic assignment of his new species and the only recent collection by Stehlé does not solve the problem.

PENTODON Hochst.

Pentodon Hochst., Flora **27:** 552. 1844.

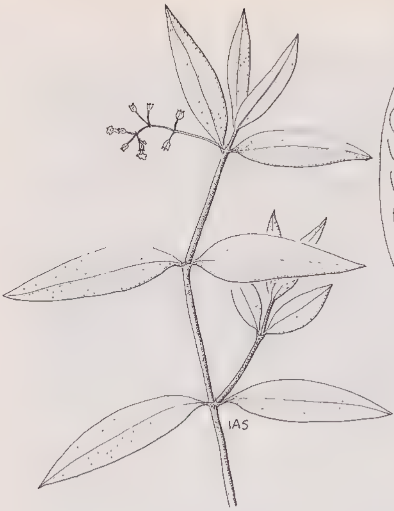
Annuals, glabrous. Leaves paired, sessile, obscurely pinnate-veined; stipules with short sheath divided into narrow fimbriae. Inflorescence terminal, a long lax pedunculate panicle, flowers appearing verticillate; flowers isostylic, perfect; calyx obconic, lobes 5, equal, narrowly triangular; corolla funnelform, throat pubescent, lobes 5, ovate-triangular; stamens exserted or included; ovary 2-locular, placentae peltate, ovules numerous, style filiform, stigma 2-lobed, the lobes filiform. Fruit capsular, oblong, loculicidally dehiscent; seeds small, numerous, brown, angular.

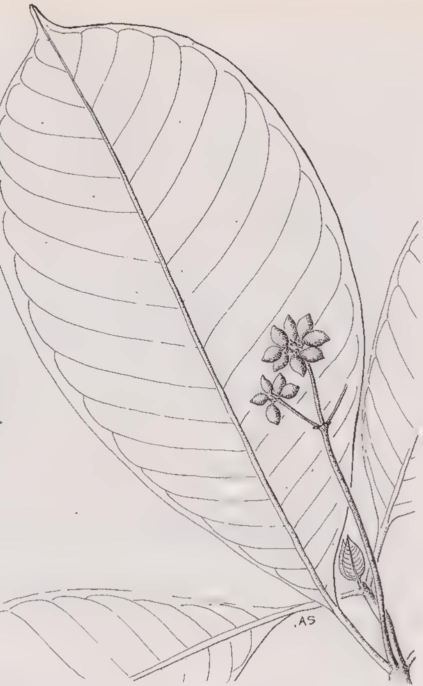
Type: *Pentodon decumbens* Hochstetter = *Pentodon pentandrus* (Schum.) Vatke.

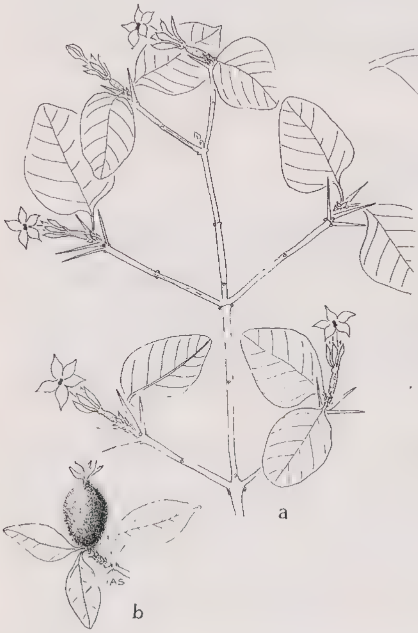
A genus of 2 species, one restricted to Somalia and the other widespread in Africa and introduced to the Americas.

Pentodon pentandrus (Schum.) Vatke, Oestr. Bot. Zeits. **25:** 231. 1875.
Figure 198.

Basionym: *Hedyotis pentandrus* Schumacher, K. Danske Vid. Selsk. Nat. Math. Afh. **3:** 71. 1827, (as *pentander*).
Type: Ghana, *Thonning.* (Holotype, c.)
Syn.: *Hedyotis halei* Torrey & Gray, Fl. N. Amer. **2:** 42. 1841. (Type: United States, Louisiana, *Hale s.n.*)







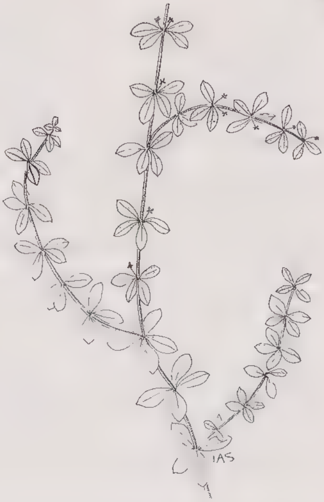


FIGURE 198 (upper left). *Pentodon pentandrus*: × 0.3. FIGURE 199 (upper right). *Psychotria uliginosa*: × 0.3. FIGURE 200 (lower left). *Randia nitida*: a, flowering shoot, × 0.3, b, fruiting spur, × 0.3. FIGURE 201 (lower right). *Relbunium guadalupense*: × 0.3.

Oldenlandia halei (Torrey & Gray) Chapman, Fl. S. U.S. 181. 1860.
Pentodon halei (Torrey & Gray) Gray, Syn. Fl. N. Amer. **1**(2): 28. 1884.

Perennial herb, stems weak, decumbent, to 1 m long. Stipule base 0.5-3 mm long, fimbriae 0.5-2.5 mm long; blades linear-lanceolate to elliptic, 1.5-8 × 0.5-2.5 cm, base rounded or acute and sessile, apex subacute to sharply acute. Inflorescence to 9 cm long, peduncles 1-6 cm long, pedicels 0.2-1.5 cm long; calyx lobes 0.5-1 mm long; corolla tube cylindrical, 2-4.5 mm long, white, pink, blue or mauve, lobes ovate-triangular, 1-3 mm long, throat hairs conspicuous. Capsule 3-4 mm long, 2.8-3.5 mm wide, beak 0.5 mm long; seeds black, angular, 0.2 mm long.

GENERAL DISTRIBUTION: Africa.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe.

NOTES: Verdcourt (Fl. Trop. E. Afr. Rubiaceae. p. 232. 1976) noted that Bremekamp had suggested *P. halei* was conspecific with *P. pentandrus* and this view was accepted by Correll & Johnston in their Manual of Vascular Plants of Texas. He noted that American material matches some East African coastal material.

PSYCHOTRIA L.

Psychotria L., Syst. Nat. ed. 10, **2:** 929, 1364. 1759, nom. cons.

Syn: *Mapouria* Aubl., Hist. Pl. Guiane **1:** 175. 1775. (Type: *M. guianensis* Aubl.)
Cephaelis Sw., Prodr. 45. 1788. (Type: *C. muscosa* (Jacquin) Sw.)

Shrubs or small trees, occasionally epiphytic. Stipules interpetiolar, intrapetiolar and connate or both, free, bilobed or entire, persistent or caducous or united into a persistent sheath, developed from a calyptra, which often becomes detached; leaves opposite, rarely ternate, petiolate, membranaceous to subcoriaceous, glabrous or pubescent, domatia present or absent in axils of veins. Inflorescence terminal or axillary, congested subcapitate cymes, corymbs or panicles, pedunculate, bracteate or ebracteate; flowers sessile or pedicellate, heterostylous; hypanthium ovoid, limb usually 5-toothed, or truncate; corolla tube cylindrical or funnelform, usually short, straight, glabrous or pubescent inside, lobes 5, valvate, white; stamens 5, inserted in throat or at mouth of tube, anthers dorsifixed, included or exserted; disk annular, entire or shallowly bilobed; ovary 2-celled, style filiform, bilobed, included or exserted, ovules solitary in each cell, erect. Fruit globose, fusiform or oblong-cylindric drupe of 2 pyrenes, these plano-convex, smooth or furrowed on the flat side, variously 3- or 5-ribbed on the convex side.

TYPE: *Psychotria asiatica* L.

A pan-tropical genus of about 1500 species variously divided by some workers.

Key to the Species

1. Flowers aggregated in colored, bracteate head; fruit bright blue.
    2. Flower clusters axillary .... *P. aubletiana*
    2. Flower clusters terminal, stalked or subsessile.
        3. Stipules with 2 long filiform setae plus numerous terete colletors; midrib puberulent below .... *P. muscosa*
        3. Stipules without filiform setae but with numerous terete colletors; midrib glabrous below .... *P. urbaniana*
1. Flowers in branched inflorescences; fruit orange red, red to purple or black.
    4. Plants epiphytic shrubs; leaves fleshy; stipules tubular-truncate, 1-2 mm long; peduncles and pedicels bright red .... *P. guadalupensis*
    4. Terrestrial herbs, shrubs or trees; leaves membranaceous or coriaceous.
        5. Herbaceous plants or small succulent shrubs; stipules broadly rounded; inflorescences axillary; pyrenes 3-ribbed.
            6. Inflorescence commonly below the leaves, shorter than the petioles; leaves rounded or apiculate at the apex; fruit white ..... *P. discolor*
            6. Inflorescence on peduncles 7 cm long; leaves acute or acuminate at apex; fruit bright red supposedly turning black .... *P. uliginosa*
        5. Shrubs or trees; stipules various; pyrenes 4- or 5-ribbed.
            7. Stipules oblong, obtuse, fused over the bud but splitting or forming a sheath.
                8. Cymes several at a node, the groups sessile; stipules persistent for a period as a free sheath on the internode; leaves basically lanceolate, 2.5-4 cm wide .... *P. nervosa*
                8. Panicles stalked; stipules caducous and not forming a sheath on the stem; leaves elliptic-obovate, broader .... *P. mapourioides*
            7. Stipules clearly paired, apex bifid, acuminate, caducous or the base persistent.
                9. Inflorescence conspicuously linear-bracteate; stipules 1 cm long, long attenuate, 1 cm; fruit blue .... *P. capitata*
                9. Inflorescence bracts small; stipules not linear-filiform, fruit red or black.
                    10. Shrub with arching or trailing branches, stems light tan in color; stipular bases persistent as horny structures; leaves barbate in axils of the nerves; fruit red .... *P. microdon*
                    10. Erect shrubs, stipules completely caducous; fruit orange-red or black.
                        11. Corolla tube 12-15 mm long; flowers subsessile in clusters of 3; pyrenes 5-ridged, the ridges rugose ... *P. domingensis*
                            12. Corolla tube 2-5 mm long; pyrene ridges not rugose.
                                13. Fruits spherical, 2.5-3.5 mm dia.
                                    14. Inflorescence corymbose; leaves not exceeding 7-14 × 3-7 cm; corolla 5-6 mm long, puberulent .... *P. pubescens*
                                    14. Inflorescence thyrsoid; leaves 10-24 × 5-10 cm; corolla 3-4 mm long, glabrous .... *P. berteriana*
                                13. Fruits elongate or spherical, 6-8 mm long.

15. Stipules ovate-lanceolate, often bifid, caducous, inflorescence short-stalked; calyx lobed; fruit oblong . . . . *P. tenuifolia*
15. Stipules triangular acuminate; inflorescence long stalked; calyx undulate-dentate; fruit spherical . . . . *P. pleeana*

Psychotria aubletiana Steyermark, Mem. New York Bot. Gard. **23:** 694. 1972.

Basionym: *Cephaelis axillaris* Sw., Prodr. 46. 1788, non *Psychotria axillaris* Willd. (1798) or Vell. (1827).
Type: St. Kitts, *Masson s.n.* (holotype, BM).

Shrub to 4 m tall, branches glabrous. Stipules bilobed, the lobes 5-10 mm long, triangular but usually obtuse, persistent; petioles 1.3-5 cm long; blades lanceolate-oblong, obovate-oblong or elliptic, 5-18 ×.2.5-6 cm, base attenuate, apex acuminate, puberulent to glabrate. Inflorescence axillary, sessile, compact forming a globose cluster 1-2 cm in diameter or larger, subtended by 4-6 ovate obtuse green glabrous bracts, flowers 5-15 subtended by obovate bracteoles, these purple or green; calyx lobes short; corolla tubular, 1 cm long, the lobes recurved, green or purple. Drupe subglobose, 5-7 mm dia, blue; pyrenes 3-3.5 × 2-2.5 mm long and wide, bluntly ridged on back, commissural side grooved.

GENERAL DISTRIBUTION: Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!.

COMMON NAMES: Ipéca bâtard, bois-marguerite, graine bleue des hauts.

NOTES: Steyermark (1972) reported the type to be a Swartz specimen from St. Kitts. However, it is a Masson collection (BM) from St. Kitts. Steyermark recognized the typical variety from the Lesser Antilles and described six additional subspecific units for plants from Central America and northern South America.

Psychotria berteriana DC., Prodr. **4:** 515. 1830.

Type: *Bertero s.n.*, "Dominique" = Hispaniola (IDC 800. 713: II. 2.).
Syn.: *Psychotria platyphylla* DC., Prodr. **4:** 517. 1830. (Type: "Delessert 1810" (IDC 800. 714: I. 3).)
Psychotria berteroana sensu Adams, Fl. Pl. Jam. 725. 1972, sphalma.

Shrub or tree to 10 m, branches puberulous. Stipules to 2 mm, of two ovate or deltoid, acute lobes seperated by a membranous flange, persistent; petioles 1-3 cm long; blades oblong-ovate to obovate-oblong, 10-24 × 5.5-10 cm, glabrous above, slightly pubescent on veins beneath. Peduncles 9-10 cm, the thyrsoid panicles 3- to 6-chotomous, to 18 × 8 cm long and wide, axes minutely pubescent, bracts linear-lanceolate to lanceolate, 3-12 mm long; calyx unequally and deeply 5-lobed, lobes ovate-triangular, to 0.5 mm; corolla tube 3.5 mm long, white, glabrous outside, pilose inside. Drupe globose, 3 mm in diameter, 5-ridged and grooved, black.

General distribution: Greater Antilles, Trinidad, Central America, Colombia.

Distribution in Lesser Antilles: St Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Common names: Café marron, bois rivière, corjarot.

Note: Steyermark (1972) has created subspecies for the South American representatives.

Psychotria capitata Ruíz & Pavón, Syst. Veg. Fl. Peruv. **2:** 59. *pl. 206, f. a.* 1799.

Type: Peru, *Ruíz & Pavón* ex Steyermark.
Syn.: *Psychotria inundata* Bentham *in* J. Bot. (Hooker) **3:** 229. 1841. (Type: Guyana, *Schomburgk 27* (holotype, K).)
Psychotria capitata Ruíz & Pavón subsp. *inundata* (Bentham) Steyermark, Mem. New York Bot. Gard. **23:** 618. 1972.

Shrub to 5 m, stems slightly tetragonal, pubescent. Stipules bifid, lobes linear-acuminate, 6-10 mm long, caducous; petioles 6-10 mm, blades lanceolate to oblong-lanceolate, 12-16 × 3-6 cm, base cuneate to rounded, apex acuminate, scattered pubescent above, glabrous below except for the reddish veins. Corymbiform panicles terminal, peduncles elongate 6-8 cm, bracteoles oblong-linear, 0.5-1 cm long, lavender or white; flowers conspicuously heterostylic; calyx tube 1 mm, lobes broad; corolla tube infundibuliform to salverform 4 mm long, lobes 4, oblong, 2 mm long, white often with a yellow orifice. Drupe globose, 4 mm long, laterally compressed, 10-ridged, purplish-black.

General distribution: Central America, Trinidad, northern South America.

Distribution in Lesser Antilles: Grenada.

Common name: Bois cendre.

Psychotria discolor (Griseb.) Rolfe, Kew Bull. **1893:** 258, 1893.

Basionym: *Psychotria uliginosa* Sw. var. *discolor* Griseb., Fl. Brit. W. Indian Is. 340. 1861.
Type: Syntypes cited, lectotype selection needed.
Syn.: *Psychotria axillaris* sensu Wikstr. Guad. 61. 1828, non Willd.
Ronabea latifolia sensu Duss, Fl. Phan. Antill. Franç. 342. 1897, non Aubl.
Psychotria caribaea Urban, Symb. Antill. **7:** 436. 1913. (Syntypes from Guadeloupe, Dominica, Martinique.)

Subshrub with herbaceous succulent stems, to 1 m tall, stems glabrous. Stipules bilobed, lobes triangular, acute, 5 mm long; petioles 3-6 cm long; blades obovate 20-32 × 10-13 cm, base narrowed to petiole, apex rounded and short triangular-apiculate, membranaceous, ferrugineous puberulent to glabrate. Inflorescence axillary, peduncle 3-10 mm long, corymbose, 3-5 cm long, bracts ovate to triangular-lanceolate, 4-10 mm long; flowers sessile; calyx limb 1 mm, teeth triangular; corolla pilose outside and inside tube, white. Drupe white, oval, compressed, 5-6 mm long, 3 mm in diameter, 6- to 10-ribbed.

GENERAL DISTRIBUTION: Jamaica, Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!.

COMMON NAMES: Café blanc, café-montagne.

NOTES: Poorly represented by collections, and the full range of leaf size is not known. The collection *Proctor 20179* is a long-style form, but the short-style form has not been seen.

Psychotria domingensis Jacq., Enum. 16. 1760, Select. Stirp. Amer. Hist. 66. 1763.

Type: Not determined, no Jacquin material located.
Syn.: *Psychotria pavetta* Sw., Prodr. 45. 1788. (Type: Jamaica, *Swartz s.n.* (holotype, s).)
Palicourea domingensis (Jacq.) DC., Prodr. **4:** 529. 1830.
Palicourea pavetta (Sw.) DC., Prodr. **4:** 525. 1830.

Shrub to 3 m tall, glabrous. Stipules bifid with triangular lobes 2 mm long, withering in place; petioles 1-2.5 cm long; blades elliptic to oblong-elliptic or elliptic-obovate, 6-20 × 4-6 cm, base cuneate, apex acute or short acuminate. Panicles subsessile or with peduncles 0.5-2 cm long, bracts minute, 0.5 mm long, caducous; flowers subsessile in 3's at ends of branches; calyx lobes 5, 1.5 mm long; corolla 12-15 mm long, curved, lobes 4-6 mm long, white or pink. Drupe compressed-globose, 5-6 mm in diameter, black, pyrenes 5-ridged, the ridges rugose.

GENERAL DISTRIBUTION: Jamaica, Dominican Republic, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Eustatius!, Guadeloupe!.

COMMON NAME: Bois-cabrit.

NOTES: Recent authors have placed this species in *Palicourea*, but C. M. Taylor in 1986 has annotated sheets as *Psychotria*, with which I agree. The connate stipules, cylindrical not gibbose corolla tube, purple black juicy fruit, and plano-convex pyrenes suggest the genus *Psychotria* instead of *Palicourea*.

Psychotria guadalupensis (DC.) Howard, J. Arnold Arb. **47:** 139. 1966.

Basionym: *Loranthus guadalupensis* DC., Prodr. **4:** 294. 1830. (Type: Guadeloupe, *Bertero s.n.* (IDC 800. 666: II. 2).
Syn.: *Viscoides pendulum* Jacq. Select. Stirp. Amer. Hist. 73, *pl. 51, f. 1.* 1763. (Type: ibid. *pl. 51, f. 1.*)
Psychotria parasitica Sw. Prodr. 44. 1788, nom. illegit. citing *V. pendulum* Jacq.

Psychotria pendula (Jacq.) Urban, Symb. Antill. **1:** 445. 1900, non Hooker (1880).
Psychotria pendula subsp. *pachyphylla* Urban, Symb. Antill. **1:** 447. 1900. (Type: Guadeloupe, *Bertero s.n.)*
Psychotria pendula subsp. *grenadensis* Urban, Symb. Antill. **1:** 447. 1900. (Syntypes cited from Grenada.)

Epiphytic shrub with pendant or arching ascending branches, these glabrous and commonly red in color. Stipules intrapetiolar, connate, tubular, membranaceous, 1-2 mm long; petioles 2-10 mm long; blades ovate, lanceolate or elliptic, 2-7 × 2-3 cm, base cuneate or rounded, apex acute or acuminate, fleshy when fresh. Peduncles 2-3 cm long, bright red rarely green; inflorescence axillary and/or terminal, cymose, flowers heterostylous; bracts minute, ovate, to 0.5 mm long, calyx triangular lobed; corolla tube glabrous outside, pubescent inside, white. Drupes 3-4 mm in diameter, red or black, pyrenes 2, 3, or 4, 2 × 1.5 mm long and wide, almost smooth and not conspicuously ridged or grooved.

GENERAL DISTRIBUTION: Greater Antilles, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Saba!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Graine rouge-montagne, graine à pedrix, bois rouge à grive.

NOTES: Steyermark (1972) has established several subspecies based on the length of the minute calyx lobes and the corolla. He failed to consider the heterostyly which I feel has an association with the corolla length. This species also proves to have 2 or 3 types of pollen grains.

Psychotria mapourioides DC., Prodr. **4:** 509. 1830.

Type: Cayenne, no collector cited (IDC 800. 711: III. 2).
Syn.: *Mapouria guianensis* Aublet, Hist. Pl. Guiane **1:** 175, *t. 67.* 1775. (Type: *Aublet s.n.* (BM)), non *Psychotria guianensis* (Aublet) Rusby based on *Palicourea guianensis* Aublet.
Psychotria nitida Willd., Sp. Pl. **1:** 963. 1798, nom. illegit. citing Aublet.
Psychotria megalosperma Vahl, Eclog. **3:** *t. 21.* 1807 (excluding description and type specimen (C) which is *Chione venosa.*)
Psychotria mapuria Schultes *in* Romer & Schultes, Syst. Veg. **5:** 187. 1819, nom. illegit.
Psychotria floribunda sensu Griseb. Fl. Brit. W. Indian Is., not HBK 1818.
Psychotria antillana Howard *in* Fournet, Fl. Ill. Phan. Guad., Mart. 1212. 1978, nom. illegit. never published.

Shrub or small tree, branches glabrous. Stipules interpetiolar, obovate to elongate obovate, apex rounded to subtruncate, 7-15 mm long, caducous; petioles 3-15 (-25) mm long; blades obovate-elliptic to elliptic-lanceolate, 8-17 × 2.5-6.5 cm, base narrowed to petiole, apex acuminate to abruptly acuminate. Inflorescence terminal, peduncles 1.5-5 cm, paniculate to subcorymbose, 4-7 cm long, pulverulent to glabrate, 5-7 radiate, bracts triangular, lanceolate to sublinear, 4 mm long, flowers sessile, heterostylous; calyx limb 0.5 mm long; corolla tube 5-6 mm long, lobes lanceolate, white. Drupe elliptic to obovoid, 6-7 × 3-4.5 mm, obtusely 10-ribbed, red-orange.

GENERAL DISTRIBUTION: Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

NOTES: Steyermark has described the complicated nomenclature of this species. Independently I had reached the conclusion that the Lesser Antillean specimens were not what they were labeled and proposed the name *P. antillana*, with which I annotated many specimens. Fournet used this name in his book. Before publication I became aware of Steyermark's work and follow his conclusions although neither of us has properly identified or disposed of the name *Psychotria floribunda* Kunth (Nov. Gen. Sp. **3:** 359. 1818) from Colombia. A Field Museum photograph of the Berlin specimen is numbered 516 (GH, NY) and shows a specimen in young flower with mostly detached leaves, and no stipules can be discerned. Originally described with a questioned locality, A. P. deCandolle (Prodr. **4:** 514. 1830) suggested the collection was from the province of Carthagena near Turbaco and cited additional specimens as *Sieber* from Martinique and *Perottet* from Guadeloupe. Urban, who may well have seen the type specimen, questioned the location as Colombia (Nova Granata) and described oblong stipules and a short and densely hirtellous ovary. Standley in his treatment of the Rubiaceae of Colombia (Field Mus. Pub. Bot. **7:** 89. 1930) did not consider the species. No specimens so annotated have been seen.

Psychotria microdon (DC.) Urban, Symb. Antill. **9:** 539. 1928.

Basionym: *Rondeletia microdon* DC., Prodr. **4:** 408. 1830.
Type: Cuba, *de la Ossa s.n.* (IDC 800. 691: III. 7, 8).
Syn.: *Psychotria pinnularis* Sessé & Moc., Fl. Mex. ed. 2. 57. 1894. (Type: Not determined.)
Psychotria horizontalis sensu Griseb. Fl. Brit. W. Indian Is. 344. 1861, non Sw.

Arching shrub, 1-2 m tall, often with trailing tan colored branches. Stipules broader than long, 2 mm long, bidentate, slightly apiculate, persistent; petioles 10-18 mm long; blades obovate-oblong to oblanceolate, 5-11 × 1.5-5 cm, base long tapering to petiole, apex acute or blunt, barbate in axils of veins beneath. Inflorescence terminal, frequently well developed on lateral branches, usually 3-rayed, few flowered corymbiform cymes, peduncles 2.5-3 cm long, bracteoles minute; calyx limb 2 mm long, minutely 5-toothed; corolla tube 5 mm, lobes 3 mm, white, clearly heterostylous. Drupe globose, 7 × 6 mm, elongate, compressed, red or orange-red; pyrenes smooth or slightly 5-ridged.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, Virgin Islands, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Les Saintes!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Café bâtard, café marron.

Psychotria muscosa (Jacq.) Steyermark, Mem. New York Bot. Gard. **23:** 671. 1972.

Basionym: *Morinda muscosa* Jacq. Select. Stirp. Hist. Amer. 65, *pl. 45.* 1763.
Type: Martinique, ibid. *pl. 45.* No Jacquin material located.
Syn.: *Cephaelis muscosa* (Jacq.) Sw. Prodr. 46. 1788.

Shrubs to 2.5 m tall, branches subtetragonal, glabrous or pilose. Stipules connate, intrapetiolar, 2-3 mm long, with 1 or 2 glandular awns 4-5 mm long and numerous subulate colletors; petioles 2-10 mm long; blades lanceolate, or elliptic-lanceolate to oblong, 4-13 × 1.5-3 cm, base acuminate to cuneate at base, apex acuminate. Inflorescence globose, short pedunculate or subsessile, terminal or axillary, 10-15 mm in diameter, composed of 5 to 10 glomerules of 2 to 4 flowers subtended by 5 to 8 orbicular, reniform or oval bracts 5 × 10-12 mm, commonly bilobed, violet, each flower with 1 to 3 smaller bracts; calyx 5-toothed; corolla 8-10 mm long, 5-lobed or -toothed, white, glabrous outside, pilose within. Drupe subglobose, 10-15 mm long, 6-8 mm in diameter, fleshy, blue.

GENERAL DISTRIBUTION: Restricted to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Ipéca bâtard, graine bleue.

NOTES: Steyermark (1972) distinguished the Trinidad and South American material as a distinct subsp. Molina (Ceiba **4:** 16. 1953) in a revision of *Cephaelis* attributed *C. muscosa* to Panama and cited two collections. Neither the species nor the collections were cited by Dwyer in his treatment of the family for the Flora of Panama (Ann. Missouri Bot. Gard. **67:** 59-82. 1980.).

Pychotria nervosa Sw. Prodr. 43. 1788, Fl. Ind. Occ. **1:** 403. 1797.

Type: Jamaica, neotype needed.
Syn.: *Psychotria undata* Jacq., Hort. Schoenbr. **3:** 5, *t. 260.* 1798. (Type: ibid. *t. 260.* No Jacquin material located).
Psychotria chimarrhoides DC., Prodr. **4:** 514. 1830. (Syntypes cited from Guadeloupe.)
Psychotria lanceolata Nutt., Amer. J. Sci. ser. 1, **5:** 290. 1822. (Type: Florida, *Ware s.n.* (holotype, GH).)
Psychotria undata var. *poiteaei* Urban, Symb. Antill. **8:** 678. 1921. (Type: Poiteau, without locality.)

Shrub to 2.5 m, branches subterete, rufous pubescent, puberulous or glabrous. Stipules sheathing terminal bud, 6-14 mm long, obovate to suborbicular, apex rounded or acuminate, splitting and persistent as a free sheath around the stem at the internode and/or soon falling; petioles 4-6 mm; blades lanceolate to ovate or oblong-obovate, 5-11 × 2-4.5 cm, base acuminate, apex acuminate or acute with obtuse tip, margin undulate, glabrous or puberulous on nerves. Panicles sessile, trichotomous, flowers stalked in clusters of 2 to 4, heterostylous; calyx tube with undulate margin; corolla tube subcylindric, expanded above, 4 mm long, lobes 2 mm, white, densely hirsute within. Drupe ovoid, 6-7 mm long, prominently 10-ribbed, bright red, pyrenes with 5 dorsal and 2 facial furrows.

General distribution: Greater Antilles, Central America, northern South America.

Distribution in Lesser Antilles: Antigua!, St. Eustatius!, Nevis!, Montserrat!, Guadeloupe!, Marie Galante!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

Common names: Ti café marron, ti kafé mawon, ti cafe marro, cafe marron, remaroogu, wood balsam.

Notes: This is a variable species with populations of extremely hairy plants which I believe Steyermark (1972) recognized as subsp. *rufescens* and subsp. *rufescens* var. *hirta.* The narrow leaf populations have been described as *P. chimarrhoides* DC., which Urban reduced to *P. undata* forma *angustifolia.*

Psychotria pleeana Urban, Symb. Antill. **7:** 461. 1913.

Syntypes: Martinique, *Duss 123*, St. Lucia, *Ramage s.n.*

Shrub or tree to 10 m tall, stems terete, glabrous. Stipules triangular to ovate-triangular, acuminate and produced in filiform appendages, 7-10 mm long, caducous; petioles 7-20 mm long; blades elliptic to obovate-elliptic, 10-15 × 4-6 cm, base narrowed to petiole, apex cuspidate-acuminate, membranaceous, domatia minute, glabrous. Inflorescence terminal, peduncles 2-6 cm long; panicles trichotomous, 6-8 cm long, pedicels 3-5 mm long; calyx limb undulate-dentate; corolla tube 5-6 mm long, white, villose inside. Fruit globose, 8 × 6 mm, red, pyrenes deeply 5-grooved, commissural face plane.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Martinique!, St. Lucia!.

Common name: Bois mal estomac.

Psychotria pubescens Sw. Prodr. 44. 1788; Fl. Ind. Occ. **1:** 425. 1797.

Type: Jamaica, neotype needed.

Shrub to 3 m, branches terete, finely pubescent. Stipules bilobed, segments broad at the base, acuminate, contiguous; petioles 5-20 mm long; blades ovate to obovate-lanceolate, 7-14 × 3-7 cm, base narrowed to petiole, apex acuminate with mucronulate tip, pubescent on the nerves below. Inflorescence corymbose-paniculate, 3-5 × 6-8 cm, peduncles 1.5-4 cm long, trichotomously branched, flowers heterostylous, sessile in small cymules, bracts filiform; calyx limb 5-toothed or lobed, lobes less than 0.5 mm long; corolla cylindrical, pubescent, tube 6 mm long, yellow or yellowish white, lobes ovate-oblong. Drupe compressed globose, 2.5-3.5 mm dia, black, 8-ribbed.

GENERAL DISTRIBUTION: Jamaica, Central America.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts.

Psychotria tenuifolia Sw., Prodr. 43. 1788; Fl. Ind. Occid. **1:** 402. 1797.

Type: Hispaniola, neotype needed.

Shrub to 6 m tall. Stipules ovate-lanceolate, bifid, lobes acuminate, 7 mm long, caducous; petioles 1.5 cm long; blades broadly elliptical, 10-15 × 4.5-6 cm, base cuneate, apex abruptly acute or acuminate, conspicuously paler below, domatia in axils of veins. Inflorescence corymbiform paniculate, 4 × 4-6 cm long and wide, on peduncles 5-10 mm or subsessile, thinly puberulous; calyx lobes 0.7 mm long; corolla tube 1.2-2 mm long, lobes 1 mm long, pubescent in throat. Drupe oblong, 6-8 mm long, red, pyrenes 5-ridged, commissural face 2-grooved.

GENERAL DISTRIBUTION: Greater Antilles, southern Mexico, Central America.

DISTRIBUTION IN LESSER ANTILLES: Antigua! Guadeloupe!, Marie Galante!, Dominica!, Martinique!, Barbados!.

COMMON NAME: Café marron.

Psychotria uliginosa Sw., Prodr. 43. 1788, Fl. Ind. Occid. **1:** 421. 1797.
FIGURE 199.

Type: Jamaica, neotype needed.

Shrub to 2 m tall, stems subherbaceous, thick and hollow, glabrous. Stipules broadly triangular, lobes lanceolate-acuminate, 4 mm long, fleshy and united at base, bilobed, lobes 3 mm; petioles 2.5-5 cm long; blades obovate-oblong, elliptic, 14-29 × 6.5-14 cm, base cuneate or tapering, apex cuspidate-acuminate, subcoriaceous or succulent, paler below. Inflorescence axillary, peduncles to 7 cm, panicles trichotomously branched; flowers short-stalked or subsessile, clustered at ends of branches, bracts ovate-acuminate, 5-10 mm long; calyx 5-toothed; corolla salverform, tube 2.5-3.5 mm, puberulent, pale red to white, throat pubescent, lobes 0.5-1 mm. Drupe compressed ovoid, 10 × 8 mm, crimson to black, pyrenes with a conspicuous dorsal rib and broad furrows, commissural face with low ridge.

GENERAL DISTRIBUTION: Greater Antilles, Central America, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Café-bois, ti café bâtard.

Psychotria urbaniana Steyermark, Mem. New York Bot. Gard. **23:** 671. 1972.

Basionym: *Cephaelis swartzii* DC., Prodr. **4:** 534. 1830, non *P. swartzii* Urban (1913). Type: St. Lucia, *Masson s.n.*

Shrub to 2 m tall, internodes tetragonal, glabrous. Stipules intrapetiolar, connate, 2-4 mm long, rounded or triangular, ciliate, with numerous awl-shaped colletors; petioles 3-20 mm long; blades ovate-lanceolate, to elliptic-oblong, 5-14 × 1.5-5.5 cm, base obtuse, apex long-acuminate or acute, glabrous. Inflorescence terminal, peduncles tetragonal, 1-4.5 cm long, numerous glomerules of heterostylous flowers subtended by 5 blue, ovate-rotund bracts 5-15 × 7-20 mm, bracts below flowers oblong, yellow; calyx teeth 5, minute 1 mm long; corolla infundibuliform, 10-12 mm long, 5 lobes, 1 mm long, white or bluish white, glabrous outside, pilose inside. Drupe globose, 10 mm long, 5-10 mm in diameter, blue, pyrenes 5 × 4 mm, shallowly grooved with 5 ridges, commissural face with deep and wide groove.

GENERAL DISTRIBUTION: Restricted to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St Martin, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAMES: Ipéca bâtard, graine bleue, bois marguerite.

RANDIA L.

Randia L., Sp. Pl. **2:** 1192. 1753.

Shrubs or small trees, often with axillary spines, and short shoots. Stipules interpetiolar, triangular, connate, persistent; leaves opposite, membranaceous or coriaceous, petiolate. Flowers solitary or cymose, terminal, flowers 5-parted, perfect or unisexual; calyx truncate, dentate or lobed; corolla campanulate, infundibuliform or salverform, tube short or long, lobes contorted; stamens inserted in throat, included or exserted, filaments short, anthers dorsifixed; ovary 2-loculed, each cell with a double or triple row of ovules, style clavate, 20-lobed. Fruit globose or cylindrical, pericarp leathery; seeds numerous, embedded in a mucilaginous material.

TYPE: *Randia aculeata* L.

A large pantropical genus divided by some workers into several genera. *Basanacantha* may be recognized with dioecious flowers. *Rothmannia* and *Rosenbergiodendron* are other segregates proposed.

CULTIVATED SPECIES

Records of *Randia calycina* Chamisso, *Randia formosa* (Jacq.) K. Schumann (*Rosenbergiodendron formosanum* (Jacq.) Fagerlind), *Randia formosa* var. *longiflora* (Ruíz & Pavón) K. Schum., *Randia dumetorum* Lam., *R. grandiflorum* Lam. and *Randia maculata* DC. in the Lesser Antilles are of plants under cultivation and not supported by specimens.

KEY TO THE SPECIES

1. Plants armed with spines.
   2. Flowers ca 2 cm long; fruits 1-1.2 cm dia. ...... *R. aculeata* var. *aculeata*
   2. Flowers 3-3.8 cm long; fruits 3.2-5 cm long .... *R. nitida*
1. Plants unarmed; flowers ca 2 cm long .... *R. aculeata* f. *mitis*

Randia aculeata L., Sp. Pl. **2:** 1192. 1753.

Type: LINN 214.1.
Syn.: *Randia mitis* L., Sp. Pl. **2:** 1192. 1753. (Type: Jamaica, not determined.)
Gardenia randia Sw., Prodr. 52. 1788, nom. illegit., citing *R. aculeata* L.
Gardenia randia Sw. var. *mitis* (L.) Sw., Prodr. 52. 1788.
Randia latifolia Lam., Encycl. **3:** 24. 1789, Ill. *pl. 156, f. 1.* 1789. (Syntypes from Antilles, Jamaica and Vera Cruz.)
Randia latifolia Lam. var. *mitis* (L.) DC., Prodr. **4:** 385. 1830.
Randia aculeata L. var. *mitis* (L.) Griseb., Fl. Brit. W. Indian Is. 318. 1861.

Shrub or tree to 4 m tall, branches commonly distichous, angular or terete, glabrous, axillary spines paired, 1-2 cm long, woody. Stipules subtriangular, 2.5 mm long, apiculate; petioles wanting or 1-2 mm long; blades variable in size and shape on same branch, broadly obovate-oblong, 1-5.5 × 1-3.2 cm, base cuneate or attenuate, apex rounded or obtuse, to slightly emarginate, subcoriaceous to membranaceous, glabrous. Flowers on short shoots, clustered at apex, sessile or subsessile, perfect; calyx 1 mm long, pubescent, with 5 teeth; corolla cylindrical, tube 4-8 mm long, lobes 5, white, villous at the mouth; stamens included or exserted; style slender, ovary 2-celled. Fruit sessile, globose, 1-1.2 cm in diameter, glabrous or puberulent, white.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Les Saintes!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Five fingers, goat horn, ink-berry, cotticambo, fishing rod, liane zagaya, petit coco, ti coco, bois quenouille, bois-lance.

NOTES: Steyermark recognized *Randia aculeata* var. *aculeata* forma *mitis* for the spineless plants and *R. aculeata* var. *aculeata* forma *aculeata* for the large-leafed spiny form. The small-leafed form he described as *R. aculeata* var. *aculeata* forma *minor* he reported to occur in the Greater and Lesser Antilles and to have leaves 4-25 (-27) × 2-13 (-14) mm long and wide with fruits 7-11 × 6-10 mm. Complete transitions seem to occur between heavily spined plants and those with delicate, small or no spines as well as transitions in leaf sizes so that the divisions seem unnecessary. There are also populations with large or small fruits.

Linnaeus described *R. mitis* and *R. aculeata* simultaneously and in that order. Britton & Millspaugh in the Bahama Flora (p. 410, 1920) selected *R. mitis* as the type species, presumably on the basis of page priority. ING credits the lectotype species *R. mitis* to Hitchcock in 1929. Standley (1934) designated *R. aculeata* as the type species. Swartz (1788) was the first to reduce *R. mitis* to varietal status under *R. aculeata* albeit as *Gardenia randia*.

Randia nitida (H.B.K.) DC., Prodr. **4:** 387. 1830. FIGURE 200.

Basionym: *Mussaenda nitida* Kunth *in* Humb., Bonpl. & Kunth, Nov. Gen. **3:** 410. 1818.

Type: Colombia, Turbaco, *Humboldt* (ex Schumann) or *Bonpland* (ex Standley).

Syn.: *Mussaenda spinosa* Jacq., Select. Stirp. Hist. Amer. 70, *t. 49.* 1763.
Randia spinosa (Jacq.) Karsten 1869, non *R. spinosa* (Thunb.) Poir. 1812.
Gardenia armata Sw., Prodr. 51. 1788, Fl. Ind. Occid. **1:** 524. 1797, nom. illegit., citing *M. spinosa* Jacq.
Gardenia tetracantha Lam., Encycl. **2:** 609. 1788. (Type: Martinique, Herb. Juss., non *Randia tetracantha* (Cav.) DC., Prodr. **4:** 387. 1830, based on *Mussaenda tetracantha* Cav. 1799.)
Randia armata (Sw.) DC., Prodr. **4:** 387. 1830.
Basanacantha spinosa (Jacq.) K. Schumn. *in* C. Mart., Fl. Bras. **6**(6): 378. 1889.
Basanacantha spinosa var. *nitida* (Kunth) K. Schumn. in C. Mart., Fl. Bras. **6**(6): 378. 1889.

Shrub or small tree, glabrate, usually with 4 stout spines at apex of branches. Stipules broadly ovate, 3-8 mm long, mucronulate-acuminate, glabrous; petioles 0.5-2 cm long, puberulent or glabrate; blades variable, mostly ovate, oblong-ovate, oval or obovate, 6-22 × 2-10.5 cm, base acute or acuminate, apex acute or abruptly acuminate. Flowers dioecious, subsessile to slender pedicellate, 2-8 at ends of branches, pedicels glabrous or puberulent; calyx lobes 5, linear, lanceolate or obovate-oblong, 4-9 mm long, acute or acuminate, often ciliate; corolla salverform, tube 2.5 cm long, lobes rhombic-ovate, 1 cm long, glabrous or short pilose; anthers inserted in corolla tube. Fruit oval or subglobose, 1.5-3.5 cm long, 1-2.5 cm thick, umbonate, mucilage black on maturity; seeds numerous, suborbicular, 4-6 mm long, brown.

GENERAL DISTRIBUTION: Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Martinique, St. Lucia!, St. Vincent!, Grenada!.

NOTES: Although Standley (1934), Steyermark (1972), Dwyer (1980) and others have accepted the name *Randia armata* (Sw.) DC., none has noted that the basionym was illegitimate when published. The next available name appears to be *Mussaenda nitida* HBK (1818) cited in the synonymy of *R. armata* by Standley in his treatment of the Rubiaceae of Colombia (Field Mus. Publ. Bot. Ser. **7:** 60. 1930). A. P. deCandolle (Prodr. **4:** 387. 1830) had recognized both *R. armata* and *R. nitida* but offered no characters in the descriptions that would distinguish the species.

Urban (Notiz. Königl. Bot. Gart. Berlin **8:** 29. 1921) considered the *Duss* collection *987* from Vauclin mountain on Martinique to be a mixed collection and described *Basanacantha martinicensis* Urban as a new species typified by *Duss 987b.* The holotype in Berlin was destroyed and no duplicate of this suffixed number has been located. His description suggests only that the flowers are slightly larger than those described above for *R. nitida.*

RELBUNIUM Hooker f.

Relbunium Hooker f. *in* Bentham & Hooker f., Gen. Pl. **2:** 149, 1873.

Perennial herbs of sprawling habit, stems angled, square, often retrorsely pubescent. Stipules 2 for each of the verticillate subsessile leaves. Flowers perfect, solitary, sessile, on axillary branches, subtended by 4 or 2 involucrate bracts; calyx obsolete; corolla rotate, 4-parted; stamens 4; styles 2, ovary 2-celled, didynamous, ovules solitary in each locule. Fruit didynamous, fleshy or more/less dry, glabrous, papillose to pubescent.

LECTOTYPE: *Relbunium nitidum* (H.B.K.) K. Schum. = *Relbunium hypocarpium* (L.) Hemsl. ssp. *nitidum* (H.B.K.) Ehrend. (vide Dempster 1982).

A genus of 30 species, primarily in South America but extending to the West Indies, Central America and southwestern North America. For further information see F. Ehrendorfer, Bot. Jahrb. Syst. **86:** 516-553. 1955, and Dempster, Allertonia **3:** 211-258. 1982.

Relbunium guadalupense (Spreng.) Urban, Symb. Antill. **7:** 416. 1912.
FIGURE 201.

Basionym: *Rubia guadalupensis* Sprengel, Syst. Veg. **1:** 397. 1825.
Syn.: *Galium hypocarpium* (L.) Griseb. Fl. Brit. W. Indian Is. 351. 1861, in part.

Sprawling herbs, stems square, with retrorse hispid pubescence on the angles. Stipules fimbriate, leaves in 4's, obovate-elliptic, 8-15 × 4-6 mm, base narrowed, apex obtuse to abruptly apiculate, ciliate on often strongly recurved margins, with curved hispid hairs on midrib above and below. Branches appearing as pedicels, to 6 mm, 4 bracts of involucre lanceolate or lanceolate-oblong, to 3 × 1 mm, acuminate; calyx obsolete; corolla rotate, lobes ovate, 2 × 1.3 mm, greenish-yellow. Fruit globose, 1 mm in diameter, bright red to orange, slightly rugose.

GENERAL DISTRIBUTION: Lesser Antilles and Guyana ex Ehrendorfer.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Nevis!, Guadeloupe!, Dominica!.

COMMON NAME: Macornet des hauts.

NOTES: Fosberg (Sida **2**(5): 386-389. 1966) published the combination *Galium hypocarpium* (L.) Fosberg unaware of Grisebach's earlier combination. Grisebach's reference to Endlicher cannot be traced in the literature. Fosberg questioned the value of the presence of 2 or 4 bracts as a generic segregation of *Relbunium.* We follow Ehrendorfer in accepting the genus.

RONDELETIA L.

Rondeletia L., Sp. Pl. **1:** 172. 1753.

Shrubs or trees. Stipules interpetiolar, broad, sheathing; leaves opposite or ternate, petiolate or subsessile. Inflorescence axillary or terminal, cymes, corymbs or panicles, rarely few-flowered; flowers perfect, 4- or 5-parted, commonly heterostylous; calyx lobed, corolla salverform, pilose or naked in the throat, lobes imbricate; stamens inserted on the throat, filaments short, anthers dorsifixed; ovary 2 loculed, style filiform, bilobed, ovules many, on axile placentae. Capsules globose or subglobose, leathery or papery, loculicidally 2-valved; seeds minute, wingless or narrowly winged or appendaged at the ends.

LECTOTYPE: *Rondeletia americana* L. vide Hitchcock, Prop. Brit. Bot. 131. 1929.

A genus of about 120 species of tropical America. Some segregate genera of *Rondeletia* are now being recognized in South American floras.

KEY TO THE SPECIES

1. Leaves less than 3 cm in length; inflorescence peduncle 1-2 mm long.
    2. Leaves 1.5-4 × 1.2-2.7 mm; branches spine-tipped .... *R. anguillensis*
    2. Leaves 1-3 × 0.7-1.7 cm; branches arching, not spine tipped . . *R. buxifolia*
1. Leaves more than 3 cm long; peduncles of inflorescences more than 2 mm long.
    3. Peduncles mostly longer than the leaves; seeds narrowly winged .... *R. americana*
    3. Peduncles shorter than the leaves; seeds broadly winged.
        4. Stems and rachises densely pilose or sericeous .... *R. martinicensis*
        4. Stems and rachises glabrous or nearly so .... *R. parviflora*

CULTIVATED OR EXCLUDED SPECIES

Rondeletia odorata Jacq. (syn. *R. speciosa* Paxon) from Havana, Cuba is occasionally cultivated in the Lesser Antilles.

Rondeletia pilosa Sw. is recorded from Montserrat by Swartz, Standley, and Britton and Wilson on the basis of a Vahl reference (Symb. Bot. **3:** 34. *t. 54.* 1794). The material seen in the Vahl herbarium has the locality indicated only as "Amer. Merid." and could not be the source of the illustration published. *Rondeletia pilosa* Sw. is a variable species as it occurs in Puerto Rico but is distinctive and has not been collected in Montserrat.

Rondeletia americana L. Sp. Pl. **1:** 172. 1753.

Type: Plum. Pl. Am. 237, *t. 242, f. 1.* 1756. Plumier in the Burman edition cited Linnaeus but no specimen is known in the Linnaean herbarium.

Shrub to 1 m, branches pilose when young. Stipules triangular-acuminate, to 3 mm long, pilose within; petioles 10 mm long; blades obovate-elliptic to elliptic-oblong, 6.5-14 × 4-6 cm, base cuneate, apex acute or short acuminate, minutely appressed pilose. Inflorescence axillary, corymbose-paniculate, bracts subfoliaceous, flowers subsessile or short pedicellate; calyx lobes linear, 2 mm long; corolla salverform, tube 10-11 mm long, white, serious, lobes five, 2-3 mm long; stamens included. Capsules globose, 3 mm in diameter, short pilose; seeds without wings.

General distribution: Endemic to St. Vincent.

Notes: Reported by Grisebach to occur on Jamaica but not now considered as part of that flora.

Rondeletia anguillensis Howard & Kellogg, J. Arnold Arb. **68:** 127. 1987.

Type: Anguilla, *Howard & Kellogg 20105* (holotype, A).

Shrub to 1 m tall, branches divaricate, spine tipped, young branches puberulent. Stipules interpetiolar, fused to a truncate obtuse collar with ciliate margin; petioles 0.2-0.5 mm long; blades suborbicular to ovate or elliptic, 1.5-3.8 × 1.2-2.7 mm, base rounded, apex rounded, margin thickened-revolute, abaxial surface densely white-velutinous. Flowers axillary, 4-parted, heterostylous; calyx campanulate, 1.5-2.8 mm long, lobes linear, 0.7-1.1 mm; corolla salverform, tube 4-5.7 mm long, pink, white puberulent outside, lobes 0.8-1.6 mm long, with an annulus of small tubercles in throat; stamens inserted or exserted, long styles 4-4.7 mm, short styles 2-2.2 mm, pollen dimorphic. Fruit globose, 1.8-2.9 mm in diameter, seeds numerous, 0.7 mm long, finely reticulate, without wings.

General distribution: Endemic to Anguilla.

Rondeletia buxifolia Vahl, Eclog. Amer. **2:** 11, pl. 12. 1798. Figure 202.

Type: Montserrat, *Ryan s.n.* (holotype, C!)

Shrub 1-2 mm tall, with slender arching branches. Stipules subannular, 1 mm long, strigillose; petioles 1-2 mm long; blades cuneate-obovate to spathulate, 1.3-3.5 × 0.7-1.7 cm, base cuneate, apex rounded or retuse, appressed pubescent on the veins below. Inflorescence axillary, 1- to 3-flowered, pedicels to 2 mm; calyx lobes 4, linear or oblanceolate, 1.5-3 mm long, acute; corolla salverform, tube 6-7 mm, cream or buff to yellowish, retrorsely pubescent outside, lobes four, 1.5-2 mm long. Capsules subglobose, 4 mm in diameter, tomentulous; seeds 1 mm long, angulate, reticulate, alate.

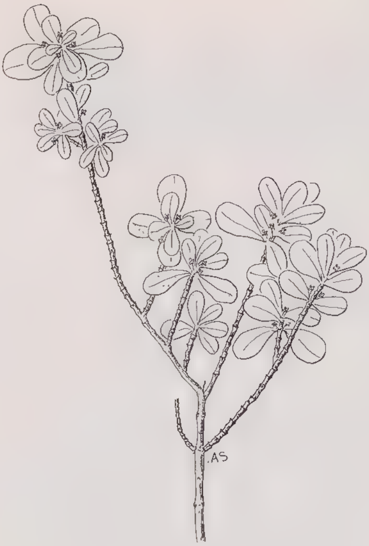
General distribution: Endemic to Montserrat.

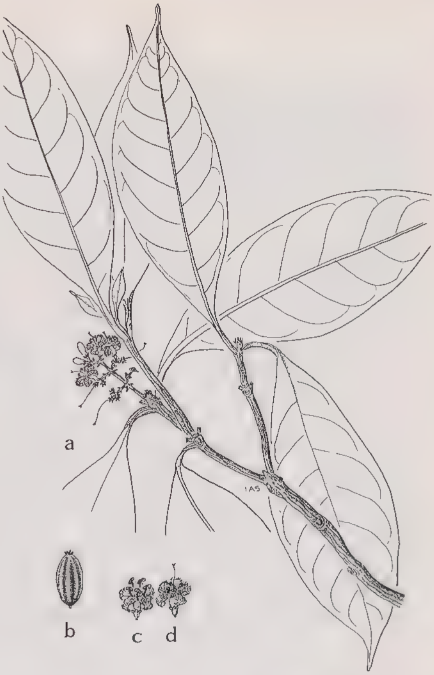
Common name: Privet.

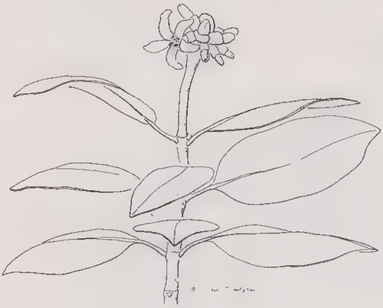
Rondeletia martinicensis Krug & Urban, Symb. Antill. **1:** 415. 1899.

Type: Martinique, *Duss 1464* (holotype, B, destroyed, isotype, NY).

Shrub to 3.5 m tall, most parts strigose-hirsute. Stipules triangular, emarginate or short apiculate; petioles 1.5-2.5 cm long, blades oval-elliptic, 13-20 × 7-9.5 cm, base acute, apex cuspidate-acuminate, short hirsute on the veins.







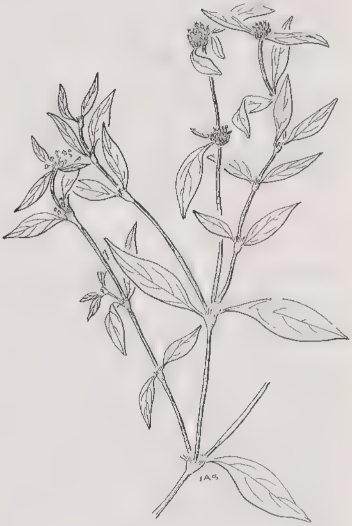


FIGURE 202 (upper left). *Rondeletia buxifolia*: × 0.3. FIGURE 203 (upper right). *Rudgea citrifolia*: a: flowering shoot, × 0.3, b, fruit, × 0.3; c, short style flower, × 0.3; d, long style flower, × 0.3. FIGURE 204 (lower left). *Schradera exotica*: × 0.3. FIGURE 205 (lower right). *Spermacoce assurgens*, × 0.3.

Inflorescence axillary, paniculate, 6-8 cm long, terminal flower in each cymose cluster sessile, the laterals on pedicels 2-3 mm long; bracts linear or subulate-linear; calyx lobes lanceolate-linear, 1.5 mm long, obtuse; corolla salverform, tube 6 mm long, throat naked, lobes 5, obovate-orbicular, 2 mm long. Capsules didymose-globose, 6-7 mm broad, short pilose; seeds 1.5-2 mm long, winged, wings irregular-crenate or dentate.

GENERAL DISTRIBUTION: Endemic to Martinique.

Rondeletia parviflora Poir., *in* Lam. Encycl. **6:** 252. 1804.

Type: Martinique, *Richard s.n.* (holotype P!).

Syn.: *Rondeletia stereocarpa* Griseb., Fl. Brit. W. Indian Is, 327. 1861. (Type: Dominica, *Imray s.n.* (holotype, K!).)

Rondeletia arborescens Griseb., Fl. Brit. W. Indian Is. 327. 1861. (Type: Dominica, *Imray s.n.* (holotype, K!).)

Shrub or tree to 7 m tall. Stipules broadly deltoid, 4-8 mm long, acute, cuspidate or rounded, ciliate or glabrous; petioles 2-4.5 cm long; blades obovate-oblong to narrowly obovate-elliptic, 12.5-22 × 5-7.5 cm, base narrowly to broadly acuminate, rarely rounded, apex obtuse or abruptly short-acuminate, glabrous to sparingly pubescent. Inflorescence axillary, paniculate, peduncles 4-11 cm long; calyx lobes narrowly triangular to lanceolate, 1-1.5 mm long; corolla salverform, tube 3-6 mm long, yellowish white, retrorsely pilose outside, annular thickened in throat, lobes 5. Capsule subglobose, 6 mm in diameter; seeds winged, wings dentate.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAMES: Quina, bois d'amande.

RUDGEA Salisbury

Rudgea Salisbury, Trans. Linn. Soc. London **8:** 327. 1807.

Shrubs or trees. Stipules interpetiolar, forming a collar and intrapetiolar with the triangular base woody and persistent, apex frimbriate, disintegrating; leaves opposite, petiolate, usually coriaceous. Inflorescence terminal, paniculate or trichotomous, bracts decreasing in size, bracteoles minute; flowers sessile, 5-parted, heterostylous; calyx lobes ovate; corolla salverform or infundibuliform, tube short, lobes valvate, pilose outside and inside; stamens inserted on the tube, anthers dorsifixed; ovary 2-loculed, style filiform, stigmatic lobes recurved, disk bilobed or annular, ovules 1 in each locule, basal. Fruit drupaceous, pyrenes 2, ridged on convex side.

TYPE: *Rudgea lanceaefolia* Salis.

A genus of 150 species of tropical America.

KEY TO THE SPECIES

1. Inflorescence loosely trichotomously branched; shrubs; fruits with persistent calyx forming a terminal collar . . . . *R. vincentina*
1. Inflorescence paniculate; fruiting calyx with minute free lobes.
   2. Shrub; fruit 1 cm long . . . . *R. hostmanniana*
   2. Trees; fruit 2 cm long . . . . *R. citrifolia*

Rudgea citrifolia (Sw.) K. Schum., *in* Engl. & Prantl, Nat. Pflanzenf. IV, **4:** 116. 1891. FIGURE 203.

Basionym: *Psychotria citrifolia* Sw., Prodr. 43. 1788.
Type: Ind. Occ. *Swartz* (holotype, s!).
Syn.: *Rudgea caribaea* Bentham, Linnaea **23:** 460. 1850. (Syntypes: Dominica, *Imray*; St. Vincent, *Guilding*; Jamaica, *Dancer.*)

Trees to 10 m, branches glabrous. Stipules interpetiolar forming a short flaring tube with intrapetiolar appendages triangular and fringed at apex; petioles 0.8-2.5 cm; blades oval-elliptic to oblong, 7-18 × 4-8 cm, base acute or cuneate, apex abruptly acuminate, coriaceous. Inflorescence a subcorymbose panicle, trichotomous, branchlets 3-flowered, heterostylous; calyx lobes triangular, glabrous or puberulent, to 0.5 mm long; corolla tube 3 mm long, lobes 6 mm long, yellow or white, long villose inside and on lobes. Drupe 2 cm long, apex truncate, orange, pyrenes strongly costate.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent.

COMMON NAMES: Café marron, bois cassant, bois pichette, café montagne.

NOTES: Bentham's record of a *Dancer* specimen from Jamaica can not be verified and that location is questioned. Grisebach cited a Wullschlägel specimen from Antigua (n.v.) but that record too is questioned.

Rudgea hostmanniana Bentham, Linnaea **23:** 459. 1850.

Lectotype: Suriname, *Hostmann 548*, fide Steyermark.
Syn.: *Rudgea freemanii* Sprague & Williams *in* Williams & Cheesman, Fl. Trin. **2:** 39. 1928. (Lectotype: Trinidad, *Freeman s.n.* Herb. Trin. 9358, fide Steyermark.
Rudgea hostmannii Bentham ssp. *freemanii* (Sprague & Williams) Steyermark, Mem. New York Bot. Gard. **17:** 414. 1967.

Shrub of 3 m, interpetiolar stipule sheath 2 mm long, intrapetiolar appendage triangular, fimbriate; petioles 1-1.5 cm, blades oval-elliptic, elliptic-oblong to obovate-oblong, 12-15 × 5-8 cm, base acute, apex acute. Panicles with peduncles to 5 cm long, branches subverticellate, 2- or 3-chotomous, ultimate branches 5- to 7-flowered; calyx lobes triangular, pubescent; corolla tube 4 mm long, hairy in throat, lobes 5-6 mm long. Drupe 6-10 mm long, 6 mm in diameter, red or black, pyrenes ridged.

GENERAL DISTRIBUTION: Trinidad, Tobago, Guianas, Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Grenada!.

COMMON NAME: Wild coffee.

NOTE: Steyermark distinguished the subspecies on the basis of pubescence.

Rudgea vincentina Urban, Symb. Antill. **7:** 546. 1913.

Syntypes: St. Vincent.

Tree to 3.5 m, glabrous. Interpetiolar stipules forming a collar, 2 mm high, persistent, intrapetiolar appendage 1.5 mm long, fringed, caducous; petioles 4-12 mm long; blades elliptic-oblong, 6-13 × 2.5-6 cm, base obtuse to acute, apex acuminate, chartaceous to coriaceous. Inflorescence laxly flowered, flowers sessile, heterostylous; calyx tube 2.5 mm long, 3- or 4-dentate to incised; corolla tube to 1-1.5 cm long, white, pubescent inside. Fruit narrowly ovoid, 8-10 mm long, 4.5-5 mm in diameter, white.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Vincent!, Grenada!.

NOTES: This species is poorly known and the scanty material available for study is discordant in many characters to the other species of *Rudgea.*

SCHRADERA Vahl

Schradera Vahl, Eclog. Amer. **1:** 35. 1796, nom. cons.

Syn.: *Fuchsia* Sw., Prodr. 62. 1788, non *Fuchsia* L.
Urceolaria Willd. *in* Cothen. Disp. Veg. Meth. 10. 1790, nom. rejic. (Type: *U. exotica.*)

Epiphytic shrubs with stout succulent branches, juvenile growth often adpressed to tree trunks, with flattened stems, applanate leaves and with adventitious roots. Stipules interpetiolate, connate at base, caducous; leaves opposite, petiolate, leathery or coriaceous. Inflorescence terminal, pedunculate, the flowers clustered or capitulate, subtended or surrounded by an involucre; flowers heterostylic; calyx cupuliform, truncate; corolla salverform or hypocrateriform, tube villous within, lobes 5 or 10, spreading or reflexed, valvate; stamens 5 or 10, anthers subsessile, dorsifixed, linear, filaments adnate to corolla tube; ovary 2-4-celled, style elongate, 2- to 4-lobed, ovules numerous in each locule. Fruit syncarp, drupaceous; seeds numerous, compressed, horizontally attached.

TYPE: *Schradera capitata* Vahl, nom. illegit. (*Fuchsia involucrata* Sw. = *S. involucrata* (Sw.) K. Schum.).

A genus of 25 species of tropical America. For further information see Steyermark, Mem. New York Bot. Gard. **10:** 259-278. 1964 and Nicolson, J. Arnold Arbor. **58:** 4456-450. 1977.

Schradera exotica (J. F. Gmelin) Standley, Field Mus. Pub. Bot. **4:** 286. 1929. FIGURE 204.

Basionym: *Urceolaria exotica* J. F. Gmelin, Syst. Nat. **2:** 390. 1791.

Type: Gmelin referred to Willdenow in Cothenius, Disp. Veg. Meth., which may refer to a specimen but none has been located.

Syn.: *Schradera capitata* sensu Vahl, Eclog. Amer. **1:** 35, *t. 5.* 1796, exclud. syn.
Urceolaria capitata Fritsch, Oestrr. Bot. Zeit. **44:** 288. 1894, nom. superfl.
Schradera vahlii Steyermark, Mem. New York Bot. Gard. **10:** 277. 1964, nom. superfl.
Schradera vahlii Steyermark var. *acutifolia* Steyermark, Mem. New York Bot. Gard. **10:** 277. 1964. (Type: Dominica, *A. C. Smith 10289* (holotype, NY).

Shrub or epiphytic liana, stems and leaves succulent. Stipules obovate, rounded, 1-1.5 cm long, membranaceous, united below, caducous; petioles 1-2.5 cm long; blades ovate to oblong, 5-11 × 2-7 cm, base rounded, obtuse to subacute, apex obtuse or acute. Inflorescence solitary, terminal, peduncle 2.5-4 cm long; flowers capitate, subtended by peltate involucral bracts 8-10 mm long; calyx 1 mm long; corolla tube 7-17 mm long, lobes lanceolate-linear as long as tube, acute, thick, white. Drupes white.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAMES: Liane blanc, liane-jasmin, jasmin-bois.

SPERMACOCE L.

Spermacoce L., Sp. Pl. **1:** 102. 1753.

Syn.: *Borreria* G. F. W. Meyer, Prim. Fl. Esseq. 79. 1818, nom. cons. (Type: *Borreria suaveolens* Meyer, type cons.)

Annual or perennial herbs, occasionally woody, strict, branched with stems prostrate or cushion-forming plants with stout woody caudices, stems quadrangular. Stipules united in a cylindrical sheath, fringed with filiform appendages, leaves opposite or appearing verticillate through the development of short leafy axillary branches equal to or shorter than the primary pair, mostly sessile, margins flat or recurved, blades sometimes curved or coiled. Flowers perfect, but heterostyly is suspected, in axillary or terminal glomerules, individual flowers subtended by long hairs, mostly 4-parted; calyx lobed, the lobes equal or unequal, sometimes accompanied by small teeth, mostly persistent but irregularly caducous; corolla infundibuliform, lobes valvate; stamens attached in the throat, exserted or included, anthers dorsifixed, disc obsolete or cushionlike, ovary bilocular, ovule solitary in each locule, style filiform, stigma shortly 2-lobed. Fruit cylindrical, septicidal, valves splitting at top or indehiscent; seeds oblong or ellipsoidal, brown to black, shiny or dull, pitted or furrowed on the convex side, commisural groove variously developed present on adaxial side.

LECTOTYPE: *Spermococe tenuior* L. fide Britton & Brown.

When combined with *Borreria*, a genus of ca. 400 species worldwide. The following taxa represent endemic species, weeds of wide distribution, and casual older records or specimens suggesting incidental introduction and questionable establishment.

Few genera of the Lesser Antillean flora were represented by so many erroneous identifications or completely unidentified specimens. Other authors have suggested mature fruits and seeds are necessary for accurate identification. The characters derived from the nature of the splitting of the cocci and subsequent dehiscence of each are difficult to use and possible variation is not known. The caducous nature of the sepals often reported in fruit seems inconsistent. Seed color does not appear reliable and the exact nature of the ornamentation of the seed coat may be clear in scan microscope pictures but is not a field character nor of much use with dissecting microscopes or hand lenses. Authentic specimens have been seen for only a few species. This genus needs a worldwide revision.

Key to the Species

- 1. Leaves more than 1 cm wide.
  - 2. Inflorescence of terminal heads; plants glabrous; seeds transversely furrowed .... *S. assurgens*
  - 2. Inflorescence of few-flowered axillary glomerules; plants glabrous or variously pubescent; seeds foveolate.
    - 3. Plants pubescent.
      - 4. Stipular setae fimbriate, 5-9 mm long; plants golden hirsute; leaves petiolate .... *S. latifolia*
      - 4. Stipular setae filiform, 3 mm long; plants white hirsute; petioles obsolete .... *S. tetraquetra*
    - 3. Plants glabrous .... *S. ernstii*
- 1. Leaves 2-5 mm wide.
  - 5. Flowers primarily in terminal heads.
    - 6. Terminal head 2-3 cm across flattened; stems strict or branched above; involucral leaves 6-8; calyx lobes 2 .... *S. densiflora*
    - 6. Heads 5-10 mm across; involucral leaves 2, rarely 4; calyx lobes 2, 3 or 4.
      - 7. Plants commonly with axillary short clusters of leaves, seeming verticillate.
        - 8. Low spreading or cushion forming woody shrubs.
          - 9. Leaves ovate-oblong, to 6 mm long, flat, rounded at the base, subsessile .... *S. berteroana*
          - 9. Leaves linear, usually curved or curled, to 12 mm long, margins revolute .... *S. bahamensis*
        - 8. Erect herbs, woody at base, to 1 m tall; leaves lanceolate or occasionally linear, 2-6 cm long, membranaceous .... *S. verticillata*
      - 7. Plants lacking axillary clusters of leaves, stems spreading.
        - 10. Leaves elliptic to elliptic-oblong, apex acute or obtuse; seed foveolate .... *S. dussii*
        - 10. Leaves lanceolate, acuminate; seeds transversely furrowed .... *S. assurgens*

5. Flowers primarily in few-flowered axillary glomerules.
  11. Plants hispid-hirsute with long whitish hairs; fruits pilose . . . . *S. tetraquetra*
  11. Plants glabrous.
    12. Midrib with rough gibbosities below; leaves with axillary shoots, appearing verticillate . . . . *S. eryngioides*
    12. Midrib smooth below, without gibbosities; axillary leaf clusters not evident.
      13. Flowers in clusters 2-6 flowers; stems conspicuously ridged; cocci unequal, 1 closed with 1 calyx lobe, the other opening, with 3 calyx lobes; fruit pilose . . . . *S. confusa*
      13. Flowers more numerous, stems angled and grooved but not ridged; cocci equal with 2 calyx lobes . . . . *S. prostrata*

Spermacoce assurgens Ruíz & Pavón, Syst. Veg. Fl. Peru **1:** 60, *t. 92b.* 1798. FIGURE 205.

Type: ibid. *t. 92b.*

Syn.: *Borreria laevis* sensu modern authors not (Lam.) Griseb. See: Verdcourt, Kew Bull. **37:** 547. 1983.

Spermacoce suffrutescens Jacq., Pl. Hort. Schoenbr. **3:** 40, *t. 322.* 1801. (Type: ibid. *t. 322.*)

Erect to decumbent perennial herb, woody below, branches to 40 cm, sparsely puberulent to glabrate. Stipule sheath with several bristles 4-6 mm long; petioles to 5 mm, blades oblong-lanceolate or lanceolate, 2-7 × 0.5-2.5 cm, glabrous to scabrous both sides, base obtuse to attenuate, apex acute or acuminate, margins minutely serrulate, with 6-7 pairs ascending veins. Flowers in terminal heads, occasionally in first axil, each head with several linear bracts; calyx 4-lobed, lobes 0.8 × 0.8 mm; corolla campanulate-urceolate, tube 2 mm, lobes 4 elliptic-ovate, 1.5 × 0.5 mm, pink; ovary hirtellous on upper part. Fruits obovoid, papery, pilose or puberulent, crowned with 4 persistent green calyx lobes; seeds brown, ellipsoidal, 1.5-2 mm long, ca. 0.8 mm in diameter, abaxial surface transversely grooved.

GENERAL DISTRIBUTION: Native of tropical America naturalized in Africa, Asia.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Herbe à macornet or herbe à cornette are names applied to nearly all species in the French Islands.

Spermacoce bahamensis (Britton) Howard, Phytologia, **65:** 287. 1988.

Basionym: *Borreria bahamensis* Britton *in* Britton & Millsp., Bahama Fl. 423. 1920. Type: Bahamas (Crooked Island), *Brace 4749* (holotype, NY).

Much-branched shrubs, from woody bases with erect stems to 25 cm or cushion-forming plants forming large clumps, branches 4-angled, internodes short, glabrous. Stipular sheath usually with only one awl-shaped tooth 2-3 mm long, rarely 2 smaller ones present; leaves opposite, with axillary clusters of smaller leaves; petioles obsolete, blades linear or linear-oblong, 4-12 × 2-3 mm, commonly curved or curled, base decurrent, apex apiculate, margins revolute, basally ciliate. Flowers few in terminal heads, subtended by smaller involucrate leaves, to 5 mm in diameter; calyx lobes 2 or 3, linear, acute; corolla 2-2.5 mm long, white, lobes ovate, acute. Capsule oblong, 2 mm long; seeds dark brown, 1.2 mm long, foveolate.

General distribution: Bahamas.

Distribution in Lesser Antilles: Barbuda!, Antigua!, St. Eustatius!, St. Kitts!, Guadeloupe!, La Désirade!, Les Saintes!.

Spermacoce berteroana Howard, Phytologia **65:** 287. 1988, nom. nov.

Syn.: *Borreria scandens* DC., Prodr. **4:** 546. 1830 (exclud. synonyms), not Willd. (1797). (Type: Guadeloupe, *Bertero s.n.* (IDC 800. 718: II. 2).

Woody herb, stems spreading, 4-angled. Stipule sheath short, teeth few, to 1 mm long; petiole obsolete; blades ovate, 3-6 × 2.5-3 mm, base rounded, apex acute, glabrous, thick, flat, margin ciliate at base, with smaller leaves clustered in axils. Flowers capitate at ends of branches subtended by 4 small leaves; calyx lobes 3, to 1.2 mm long, rounded at apex; corolla 2-2.5 mm long. Capsule 1.5 mm long; seeds ellipsoidal, 1.2 mm long, black, foveolate.

General distribution: Endemic to the Lesser Antilles.

Distribution in Lesser Antilles: Antigua!, Montserrat!, Guadeloupe!, Dominica!.

Spermacoce confusa Rendle, J. Bot. **74:** 12. 1936.

Type: Dillenius, Hort. Eltham. 370, *t. 277, f. 359.* 1732, typotype, OX.
Syn.: *Spermacoce tenuior* sensu many authors, not L. (1753).

Annual herb to 60 cm tall, branches spreading, stems sharply angled and conspicuously ridged, sparsely strigose or pilose. Stipule sheath short, 1 mm long, truncate, bearing several threadlike bristles 1-2 mm long; petioles 2-3 mm long; blades lanceolate to linear-lanceolate or linear, 2.5-4 × 0.2-0.5 cm, base narrowed, apex acuminate, 1-nerved, strigose above. Flowers 7-13, often unilateral; calyx lobes 4, 1 mm long; corolla 2 mm long, lobes ovate, half length of tube. Capsules subglobose, 2.5 mm long, strigose to pilose, cocci unequal, one with 3 calyx lobes and closed, the other with 1, and opened, calyx lobes 1 mm long, persistent; seeds oblong, brown, finely reticulated, scarcely pitted.

General distribution: Greater Antilles, Central America, South America.

Distribution in Lesser Antilles: Anguilla!, Barbuda!, St. Barts!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!, the Grenadines!, Barbados!.

NOTES: Gillis (Phytologia **29:** 185-187. 1974.) felt that *S. confusa* Rendle was not validly published as it lacked a Latin diagnosis. He supplied this and selected a new type *Harris 12749* from Jamaica. Nicolson (J. Arnold Arb. **58:** 445-447. 1977) disagreed, recognizing that Rendle had cited previously published descriptions, and we follow his conclusions.

Spermacoce densiflora (DC.) Liogier, Phytologia **54:** 113. 1983, **64:** 347. 1988.

Syn.: *Borreria spinosa* Jacq. Enum. 12. 1760, nom. nudum.
Spermacoce spinosa L. Sp. Pl. ed. 2, **1:** 248. 1762, as to name but not plant.
Spermacoce spinosa Sw., Observ. Bot. 45. 1791, not L. 1762 nor Jacq. 1763.
Borreria densiflora DC., Prodr. **4:** 542. 1830. (Type: Jamaica, *Swartz s.n.* (IDC 800). 719: II. 2).

Stout herb, unbranched or branched above, to 70 cm tall, stems glabrate. Stipules membranous, sheathing with bristles 4 mm long; petioles obsolete; blades narrowly lanceolate to linear-lanceolate, 6-10 × 0.4-1.2 cm, base narrowed to subsessile base, apex acuminate, glabrous, margin revolute. Flower clusters subtended by 4-8 small leaves, densely many-flowered, the terminal clusters flattened, to 2.5 cm in diameter, the lower smaller; calyx lobes 2, to 2.5 mm long, pubescent with broad-based hyaline margins; corolla white, glabrous. Fruits 3-4 mm long, stiffly membranous, white villose; seeds narrowly oblong, brownish-red, 2 mm long, finely foveolate.

GENERAL DISTRIBUTION: Jamaica, Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, Martinique!, St. Lucia!.

NOTE: Steyermark (1972) has discussed the typification of the Linnean material.

Spermacoce dussii (Standley) Howard, Phytologia **65:** 288. 1988.

Basionym: *Borreria dussii* Standley, Pub. Field Mus. Nat. Hist. Bot. Ser. **11:** 185. 1936.
Type: Guadeloupe, *Duss s.n.* (holotype, P).
Syn.: *Borreria ocymoides* (Burm. f.) DC. var. *dussii* (Standley) Fournet, Fl. Ill. Phan. Guad. Mart. 1179, 1181. 1978 (nom. illegit. citing basionym by name but without reference.)

Perennial herb, woody at base, stems to 35 cm long, angled, glabrous. Stipule sheath with setae 1 mm long; petioles obsolete or to 1 mm long, blades oblong or elliptic-oblong, 5-15 × 2.5-7 mm, base obtuse or narrowed, apex acute, flat, glabrous. Flowers in small terminal heads, 6-7 mm wide, subtended by 2 small leaves; sepals 4, spathulate, 1.5 mm long, obtuse, fleshy; corolla 2 mm long, glabrous, white. Capsule oblong, 2 mm long, glabrous; seeds ellipsoid, 1.3 mm long, brown, foveolate.

GENERAL DISTRIBUTION: Endemic to Guadeloupe.

Spermacoce ernstii Fosberg & Powell, Smithsonian Contr. Bot. **45:** 29. 1980.

Type: Colombia, *Fosberg 19632*, holotype, US).

Diffuse to erect herb, stems glabrous to sparsely scabrid. Stipule sheath short, bristles several, 2-3.5 mm long; leaves elliptic to lanceolate-elliptic, 2.5-4 × 1-1.5 cm, wide, base decurrent, apex acute to acuminate, with 5 pairs ascending veins, margins flat. Inflorescences small, less than 1 cm across, few-flowered; calyx lobes 4, linear, 1-2 mm long, subequal, obtuse at apex; corolla 2-2.5 mm long, lobes triangular-ovate. Capsule with few hairs, hispidulous, 1-1.5 mm long, cylindrical; seeds broadly elliptic, glossy, brown, minutely and shallowly longitudinally pitted, 1 mm long, black-castaneous.

General distribution: Neotropics, introduced to Pacific area.

Distribution in Lesser Antilles: Dominica!, St. Vincent!, Grenada!.

Common name: Z'herbe acouette.

Spermacoce eryngioides (Chamisso & Schlechtendal) O. Kuntze, Revis. Gen. Pl. **3**(2)**:** 123. 1829.

Basionym: *Borreria eryngioides* Chamisso & Schlechtendal, Linnaea **3:** 316. 1828. (Type: Brazil, *Sellow s.n.* (n.v.).

Erect plants to 40 cm tall, stems sharply 4-angled, glabrous. Stipular sheath flaring, teeth several, to 3 mm long; leaves with axillary clusters of smaller leaves, appearing verticillate, linear-lanceolate, 2-3 × 0.2-0.5 cm, base decurrent, apex acute, margin revolute, with conspicuous scabrosities on midrib below. Inflorescence small but many-flowered; calyx lobes 4, unequal, those opposite the septum larger and more persistent than those at the septum; corolla equaling the calyx lobes, white. Capsule with a few hairs; seeds ellipsoidal, 1.3 mm long, glossy, dark brown, finely reticulate.

General distribution: Neotropics.

Distribution in Lesser Antilles: Antigua!, Guadeloupe!, Dominica! St. Lucia!, Grenada!.

Notes: A varietal name honoring Adrien Questel suggested in annotations by Fosberg and Powell apparently has not been published.

Spermacoce latifolia Aublet, Hist. Pl. Guiane **1:** 55, *t. 19, f. 1.* 1775.

Type: Guiana, *Aublet s.n.*

Syn.: *Borreria bartlingiana* DC., Prodr. **4:** 544. 1830. (Type: Mexico, *Haenke s.n.*).

Borreria fockeana Miq., Linnaea **18:** 299. 1844. (Type: Suriname, collector not indicated.)

Borreria latifolia (Aubl.) K. Schum., *in* C. Mart. Fl. Bras. **6**(6)**:** 61, *t. 80.* 1888.

Borreria latifolia (Aubl.) Schum. var. *fockeana* (Miq.) Brem., Rec. Trav. Bot. Neerl. **31:** 307. 1934.

Borreria latifolia var. *bartlingiana* (DC.) Fournet, Fl. Ill. Phan. Guad. Mart. 1182, 1978, nom illegit., no basionym cited.
Borreria latifolia var. *latifolia* f. *fockeana* (Miq.) Steyermark, Mem. New York. Bot. Gard. **23:** 809. 1972.

Erect perennial herb, branched or unbranched, to 60 cm tall, stems 4-angled and grooved, densely golden hirsute. Stipules with fimbriate bristles, 5-9 mm long; petioles 2-6 mm long; blades elliptic or oblong, 2-5.5 × 0.8-3.5 cm, base narrowed to petiole, apex acute, scabrous-hirsute above, hirsute below, commonly drying yellowish. Flowers few in axillary glomerules; calyx lobes 4, triangular, 1.6 mm long, acute, ciliate; corolla 3 mm long, bluish-white. Capsule 3.5 mm long, pilose; seeds 3 × 1.5 mm, black, minutely foveolate.

GENERAL DISTRIBUTION: Trinidad, South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!.

NOTE: Steyermark (1972) has established several subspecific taxa for this species.

Spermacoce prostrata Aublet, Hist. Pl. Guiane **1:** 58, *t. 20, f. 3.* 1775.

Type: *Aublet s.n.* (G, fide Fosberg, or P-R **3:** 118.)
Syn.: *Borreria parviflora* G. Meyer, Prim. Fl. Esseq. 83, *t. 1, f. 1, 2, 3.* 1818. (Type: Santo Domingo, ibid. *t. 1, f. 1, 2, 3.*
Borreria ocymoides sensu most American authors, not *Spermacoce ocymoides* Burm. 1768.

Annual herb, to 30 cm high, slender, erect sometimes diffusely branched, glabrous to sparingly pilose, 4-angled but not ridged. Stipular sheath with setae 2-3 mm long; petioles 1-2 mm long; blades oblong-elliptic or the lower spathulate, 1-2.5 × 0.1-0.8 cm, base narrowed, apex acute, margin often recurved, ciliate. Flowers several to many in glomerules 6-8 mm in diameter; calyx lobes 4, broad based and subulate, to 0.7 mm long; corolla white, shorter than calyx. Capsule ellipsoid to obovoid, to 1 mm long; seeds 0.6-0.7 mm long, coarsely foveolate in definite lines.

GENERAL DISTRIBUTION: Greater Antilles, Tropical America, Asia.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, Grenada!.

NOTES: Fosberg and Powell (Smithsonian Contr. Bot. **45:** 30. 1980) published the combination *S. repens* (DC.) Fosberg & Powell, stating in the synonymy *S. ocymoides* sensu auct. non Burman f., Fl. Ind. 34. 1768. The combination is illegitimate as the name *S. repens* has been used twice before by Chamisso & Schlechtendal (1828) and Sesse & Mocino (1897) according to Index Kewensis. The basionym *Borreria repens* DC. (1830) is more recent than the Aublet name used here. I have not seen the specimens Fosberg cited to determine if the Aublet name is applicable.

Spermacoce tetraquetra A. Rich., *in* Sagra, Hist. Fis. Cub. Bot. **11:** 29. 1850.

Type: Cuba, collector not stated.

Erect herbs, stems to 60 cm tall, branches hirsute and plants hispid-hirsute throughout with long whitish spreading hairs, stems acutely 4-angled. Stipule sheath with numerous setae, to 3 mm long; petioles obsolete or to 1 mm long; blades ovate-elliptic, lanceolate to oblong-lanceolate, 4-7 × 1-1.8 cm base decurrent, apex acute, with 6 pairs of veins, commonly turning black on drying. Flowers few in axillary glomerules; calyx lobes 4, lanceolate, 1.5 mm long, acuminate; corolla 2-2.5 mm long, white, densely barbate inside. Capsule 2-2.5 mm long, densely hispidulous with white hairs; seeds ellipsoidal, 1.8 mm long, brown, minutely foveolate.

General distribution: Florida, Greater Antilles, Mexico, Central America.

Distribution in Lesser Antilles: Barbados!.

Spermacoce verticillata L., Sp. Pl. **1:** 102. 1753.

Type: Jamaica, LINN 125.2.
Syn: *Borreria verticillata* (L.) Meyer, Prim. Fl. Esseq. 83. 1818.
Borreria podocephala DC., Prodr. **4:** 542. 1830. (Type: locality uncertain, either Mexico or Cuba (IDC 800. 719: II. 1).

Woody herb, erect, glabrous, branches angled. Stipules sheathed, setae 3-5 mm long; leaves appearing verticillate with those of axillary clusters nearly equal to the principal leaves, linear to linear-lanceolate, 2-6 × 0.3-1.2 cm, base narrowed, apex acute to acuminate. Glomerules of flowers to 12 mm in diameter, terminal or a few lateral, dense; calyx lobes 2, narrow, to 1 mm long; corolla 1.5-2 mm long, white, lobes ovate, acute. Capsule oblong to subglobose, 1 mm in diameter, glabrous, each coccus with a large dorsal calyx lobe; seeds ellipsoidal, 1 mm long, dark brown, foveolate.

General distribution: Greater Antilles, Central and South America, Africa.

Distribution in Lesser Antilles: Guadeloupe!, La Désirade!, Les Saintes!, Dominica!, St. Lucia!, St. Vincent!.

Notes: The name *S. verticillata* has been applied to specimens from the Lesser Antilles, here recognized as different species, in which the axillary clusters of leaves are evident, and the leaves appear to be verticillate at the nodes. The Linnean specimen, considered the type, shows fairly broad primary leaves. Linear or very narrow-leafed forms appear in the range cited above. Most of these have only a conspicuous pair of leaves with minor development of the axillary shoots. Although many authors refer to narrow-leafed forms or varieties of *S. verticillata*, no name can be found that clearly applies to these. Further studies might indicate the simple linear-leaved plants are specifically distinct.

STRUMPFIA Jacquin

Strumpfia Jacquin, Enum. Syst Pl. 8, 28. 1760.

Low shrubs, densely branched, the branches erect. Stipules small, persistent; leaves verticillate in 3's, crowded at ends of branches, linear, coriaceous, margins revolute. Flowers perfect, in short axillary racemes; calyx 5-lobed; corolla infundibuliform, 5-lobed, lobes lanceolate, imbricated; stamens 5, borne at base of the short corolla tube, filaments short, anthers narrowly oblong, connate; ovary 2-celled, style pubescent, stigma 2- or 3-lobed, ovules 1 in each cell. Fruit small fleshy drupe with 1 endocarp.

TYPE: *Strumpfia maritima* Jacq.

A monotypic genus of the West Indies, Curaçao and Mexico.

Strumpfia maritima Jacq., Enum. Syst. Pl. 28. 1760; Select. Stirp. Amer. Hist. 218. 1763. FIGURE 206.

Type: See Notes.

Shrub to 2 m, twigs densely pubescent, roughened by persistent stipule bases, internodes very short. Stipules rigid, triangular from a broad persistent base, fringed above and spreading, free portion 1.5 mm; petioles obsolete to 1 mm long; blades linear, base decurrent, apex acute usually apiculate, margins strongly incurved, grey-pubescent both surfaces, becoming glabrate above, persistent tomentose below within incurved margins. Inflorescence racemose, axillary, gray-white pubescent, peduncles 1-1.5 cm long, pedicels 1 mm long; calyx 1 mm long, lobes triangular-ovate, acute; corollas campanulate, tube to 1 mm long, lobes ovate-lanceolate, 3 × 1.2 mm, fleshy, pilose both surfaces, pink; anther column 2 mm long, yellow. Drupe globose, 3-4 mm in diameter, white.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Yucatan.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts!, Barbuda!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!.

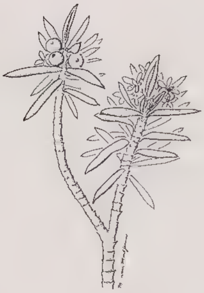
COMMON NAMES: Rosemary, rosmarin-bord-de-mer.

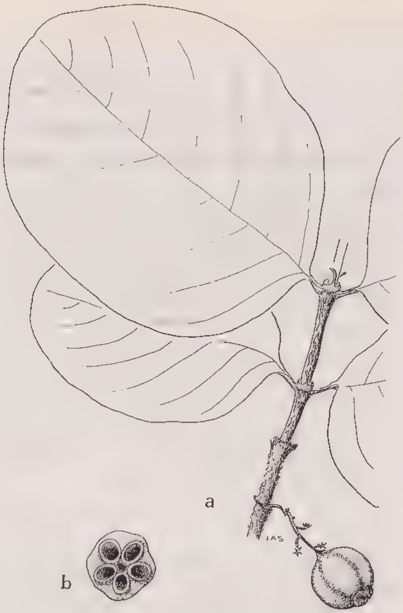
NOTES: Jacquin originally cited Sloane, Jam. 2, *t. 189, f. 2*, but Moore & Rendle (Fawcett & Rendle, Fl.Jam. **7:** 76. 1936) excluded this reference which applies to *Ernodea littoralis.* A neotype may be needed.

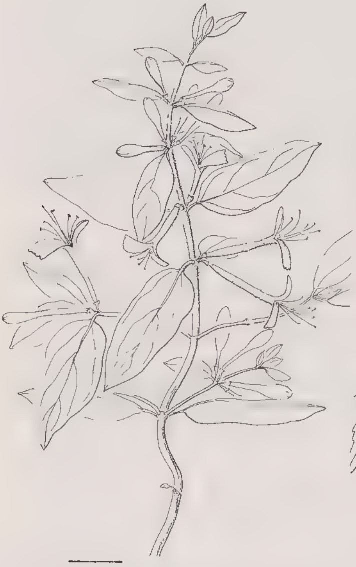
VANGUERIA A. L. Jussieu

Vangueria Juss., Gen. Pl. 206. 1789.

Shrubs or small trees. Stipules broad, connate, villous within; leaves opposite, short petiolate, membranaceous to slightly fleshy. Inflorescences cymose, axillary or borne below the leaves, bracteate; calyx 5-lobed, tube broad; corolla cylindric to campanulate, glabrous or pubescent, villous within, lobes 5, acute, reflexed; stamens 5, filaments at apex of throat, short, anthers







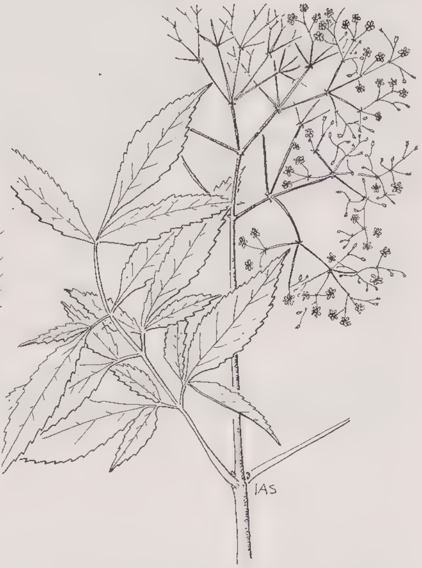


FIGURE 206 (upper left). *Strumpfia maritima*: × 0.3. FIGURE 207 (upper right). *Vangueria madagascariensis*: a, fruiting branch, × 0.3; b, section of fruit, × 0.3. FIGURE 208 (lower left). *Lonicera japonica*: × 0.3. FIGURE 209 (lower right). *Sambucus canadensis*: × 0.2.

oblong, apiculate; disk annular; ovary 5-locular, ovules 1 per locule, style terete, stigma cylindric. Fruit drupaceous, calyx persistent, pyrenes 5; seeds subglobose.

TYPE: *Vangueria madagascariensis* J. F. Gmelin.

A genus of 27 species of tropical Africa and Madagascar. Introduced into other tropical areas.

Vangueria madagascariensis J. F. Gmelin, Syst. **2:** 367. 1791.
FIGURE 207.

Type: Madagascar, *Commerson s.n.* (n.v.).
Syn.: *Vangueria edulis* Vahl, Symb. Bot. **3:** 36. 1794, nom. illegit. citing *Vavanga chinensis* Rohr (1792).
Vavanga edulis Vahl, Skr. Naturhist.-Selsk. 2, **1:** 208. 1792.

Shrub or small tree, branches divaricate. Stipules forming intrapetiolar sheath to 2 mm long, with interpetiolar awl-shaped appendages to 1 cm long, persistent; petioles 0.3-2 cm long; blades ovate to elliptic, 15-25 × 7-12 cm, base rounded, apex acute to rounded glabrous. Cymes mostly borne below the leaves, peduncles 1-2 cm long, branches 4-6 cm long, the flowers racemose, on puberulent pedicels 1-1.5 mm long; hypanthium turbinate, calyx lobes 4 or 5, triangular, 0.5 mm but expanding, puberulent; corolla campanulate, the tube to 5 mm long, constricted at the apex below the 4 or 5 corolla lobes, which are turbinate in bud, but reflexed on anthesis, triangular ovate, 2-3 mm long, greenish-yellow. Berry crowned with calyx lobes, globose, 2.5-5 cm in diameter; pyrenes 4-5.

GENERAL DISTRIBUTION: Native of Madagascar, introduced and cultivated elsewhere in tropical areas, escaping and persisting.

DISTRIBUTION IN LESSER ANTILLES: St. Barts, Guadeloupe!, Dominica!, Martinique! St. Lucia!.

COMMON NAMES: Tanmawen fwans, tanmawen déze.

NOTE: Introduced to St. Croix from Guadeloupe before 1792.

CAPRIFOLIACEAE

CAPRIFOLIACEAE A. L. Juss., Gen. Pl. 210. 1789.

Shrubs or climbing woody vines. Leaves opposite, simple or pinnately compound or dissected; stipules usually wanting. Inflorescence terminal or axillary, cymes or corymbs; flowers mostly bisexual, regular or zygomorphic; calyx 5-lobed or 5-toothed; corolla gamopetalous, rotate or bilabiate, lobes imbricate; stamens 4 or 5, epipetalous; ovary inferior, 2- to 5-locular, ovules 1- to many in each locule, pendulous, axile, style slender or obsolete, stigmas 3 to 5. Fruit a berry or drupe.

TYPE: *Caprifolium* Miller = *Lonicera* L.

A family of about 12 genera and 500 species.

KEY TO THE GENERA

Woody vine; leaves simple; corolla bilabiate	*Lonicera*
Shrubs; leaves pinnately dissected or compound; flowers regular	*Sambucus*

LONICERA L.

Lonicera L., Sp. Pl. **1:** 173. 1753.

Woody climber. Leaves opposite, short petiolate, estipulate, entire. Flowers in axillary peduncled pairs, with 2 bracts and 4 bractlets; calyx 5-toothed; corolla with short tube gibbose at base, bilabiate; stamens 5; ovary 2- or 3- to 5-celled, style slender. Fruit few- to many-seeded.

LECTOTYPE: *Lonicera xylosteum* L.

A genus of ca. 200 species of the northern hemisphere.

CULTIVATED TAXA

Lonicera confusa DC., was reported by Questel to be cultivated on St. Barts.

Lonicera hirsuta Eaton, was reported by Duss as *Caprifolium pubescens* Goldie to be cultivated on Martinique (*Duss 1911, 2428* n.v.)

Lonicera sempervirens L. was reported by Fournet as cultivated. No voucher specimens have been located.

Lonicera japonica Thun., Fl. Jap. 89. 1784. FIGURE 208.

Type: Not designated.

Woody vine climbing or scrambling, forming dense thickets, stems pubescent. Leaves on petioles 2-10 mm long; blades ovate to oblong, 4-7 × 2-3 cm, base rounded, apex acute, margin entire, pubescent below. Flowers in short peduncled bracteate pairs arranged in a terminal panicle; corolla to 4 cm long, white turning yellow or orange. Fruit berry, 6-8 mm in diameter, black, glabrous.

GENERAL DISTRIBUTION: Native of Japan now widely introduced in temperate and tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Saba, Guadeloupe!, Martinique!.

NOTE: Fruiting material has not been seen from the Lesser Antilles.

SAMBUCUS L.

Sambucus L., Sp. Pl. **1:** 269. 1753.

Soft-wooded shrubs. Leaves opposite, pinnate with serrate or laciniate leaflets. Inflorescence compound corymb, terminal, flowers nearly regular and rotate; calyx 3- to 5-toothed; corolla 3-5-lobed. ovary 3- to 5-celled, style short, ovules 1 in each locule. Fruit a drupe with three to five 1-seeded nutlets.

TYPE: *Sambucus nigra* L.

A genus of 20 species of the northern hemisphere.

Sambucus canadensis L., Sp. Pl. **1:** 269. 1753. FIGURE 209.

Type: ''Canada'', Kalm, LINN 381.2 (?).
Syn.: *Sambucus canadensis* var. *laciniata* A. Gray, Syn. Fl. **1:** 9. 1884. (Type: Florida, *Palmer s.n.* (n.v.).)
Sambucus intermedia var. *insularis* Schwerin, Mitt. Deutsch. Dendro. Ges. **18:** 38. 1909. (Type: Not specified.)
Sambucus simpsonii Rehd. *in* Sarg., Trees & Shrubs **2:** 187, *t. 175.* 1911. (Type: Florida, *Simpson* ''June 1910,'' (holotype, A).)

Shrubs to 4 m tall, stems glabrous. Leaves with petioles 3-7 cm long, clasping at the base, with a pair of glands; blades 3- to 7-parted, or foliolate, leaflets ovate, obovate or elliptic, 4-11 × 2-3 cm, base obtuse, apex acuminate, margins irregularly serrate, slightly pubescent to glabrate, sometimes glandular. Inflorescence terminal, of compound cymes, to 25 cm broad, basic peduncle to 7 cm long, ultimate pedicels 2-3 mm long; calyx campanulate, lobes 1 mm long; corolla campanulate or rotate, 3-4 mm in diameter, 5-lobed, lobes round, white. Fruit blue-black, 3 mm in diameter.

GENERAL DISTRIBUTION: Primarily eastern North America south to Panama, occasional in the Greater Antilles. See note.

DISTRIBUTION IN LESSER ANTILLES: St. Barts, Saba, St. Eustatius, Guadeloupe!, Dominica! Martinique!, St. Vincent!, Barbados!.

COMMON NAMES: Elderberry, fleur de sure, la flé siwo, suriau, suyau.

NOTE: The nomenclature accepted for these plants has varied and the correct status is still elusive. Ferguson (J. Arnold Arbor. **47:** 39. 1966) reported studies for the Generic Flora of the Southeastern United States. He concluded that *Sambucus simpsonii* Rehd. was a variant and is ''very doubtfully distinct from *S. canadensis.*'' D'Arcy (Ann. Missouri Bot. Gard. **60:** 160. 1973) used the name *S. canadensis* var. *laciniata* for the Flora of Panama with *S. simpsonii* as a synonym. N. Fukuoka (Act. Phytotax. Geobot. **27:** 158. 1976) accepted *Sambucus simpsonii* as distinct from *S. canadensis.* For many years I felt that *Sambucus* occurred in the Lesser Antilles only as a plant of cemeteries. Personal observations supported by comments from local people suggested that these plants never set fruit. In 1979 in the Champ Flore area of Martinique shrubs were found along fence rows in a field of avocado and mango trees where one plant (*Howard 18837*, A) was collected in fruit. These plants supported Ferguson's observations on leaf variation and suggest only one species is represented.

CUCURBITACEAE

by George Staples

CUCURBITACEAE A. L. Juss., Gen Pl. 393. 1789, nom. cons.

Plants annual or perennial vines or lianas, rarely shrubs or small trees. Stems angled or sulcate, with lateral tendrils, often trailing or climbing. Leaves alternate, petiolate, simple or compound. Flowers mostly unisexual, with staminate and pistillate flowers borne on the same or separate plants, regular or nearly so, solitary, in fascicles, or in racemose or corymbose inflorescences. Calyx 5-merous, adnate to the ovary. Corolla 5-merous, inserted on the calyx, sympetalous or the petals nearly distinct. Stamens 5, or fewer through fusion and reduction, anthers straight or conduplicate. Ovary inferior, often 3-carpellate, ovules numerous to solitary; styles 1 or 3, terminal, often fused; stigmas as many as the carpels. Fruit small to quite large, a berry with soft to leathery or hard pericarp (pepo). Seeds often compressed, sometimes winged, cotyledons large, embryo straight, endosperm absent.

TYPE: *Cucurbita* L.

A family comprising 121 genera and about 735 species, found throughout the tropical and subtropical regions of the world. The family has great economic importance because many taxa are cultivated as food plants; some species have minor importance as fiber sources, oil seeds, and medicinals. This family is poorly represented by adequate herbarium specimens. Often only the more conspicuous staminate plants are collected, and fully developed fruits are rare. The following descriptions are in many cases compiled from the literature.

The taxonomy employed in this treatment follows the published works of Jeffrey (in particular Fl. Trop. E. Africa. 1967; Kew Bull. **15:** 337-371. 1962; **25:** 191-236. 1971; **33:** 347-380. 1978; and J. Linn. Soc. **81:** 233-247. 1980). Information concerning morphology and distribution has been drawn from the treatments of Wunderlin (Ann. Missouri Bot. Garden **65:** 285-368. 1978) for Panama, and Dieterle (Fieldiana: Botany **24:** 306-395. 1976) for Guatemala.

CULTIVATED TAXA

The following taxa are known or reported to be cultivated in the Lesser Antilles; some may be locally established and spontaneous as well. Several are important food plants.

Benincasa hispida (Thunb.) Cogn., wax gourd or hairy melon. Reported from Guadeloupe and Martinique by Fournet (1978).

Citrullus lanatus (Thunb.) Matsumura & Nakai, watermelon, pastèque, melon d'eau, patia, watermeloen. Known from St. Barts, Antigua, Guadeloupe, Dominica, Martinique, St. Lucia, and the Grenadines (Bequia). Probably on other islands as well.

Cucurbita maxima Lam., pumpkin, squash, poitron. This species is reported from Guadeloupe and Martinique by Fournet (1978).

Cucurbita moschata (Lam.) Poiret, pumpkin, squash, giraumon. This species is known from Antigua. Stehlé & Quentin (1949) report it from both Guadeloupe and Martinique.

Cucurbita pepo L., pumpkin, courgette, vegetable marrow. This species is reported by Fournet (1978) to be cultivated on Guadeloupe and Martinique, and by Gooding et al. (1965), on Barbados.

Neoalsomitra sarcophylla (Wallich) Hutch. Recently cultivated on Marie Galante and St. Vincent.

Sicana odorifera (Vell.) Naudin, melon-coton. Reported by Fournet (1978) to be cultivated here and there on Guadeloupe and Martinique.

Trichosanthes cucumerina L. var. *anguina* (L.) Haines, snake gourd, patola, kikenga. Reported to be cultivated occasionally on Guadeloupe and Martinique (Fournet 1978) and on Barbados (Gooding et al. 1965).

KEY TO THE GENERA
(for specimens with flowers)

1. Flowers white, yellowish- or greenish-white.
    2. Inflorescences racemose.
        3. Racemes evenly and loosely flowered; leaves with glands at base of blade .... *Cayaponia*
        3. Racemes peduncled, flowers clustered above; leaves without glands .... *Ceratosanthes*
    2. Flowers axillary, solitary or fascicled.
        4. Peduncles 6-10 cm long; petioles biglandular at apex; stem apices copiously soft white-pubescent; corolla uniformly colored .... *Lagenaria*
        4. Peduncles 1-2 cm long; petioles without glands; plants scabrous-pubescent; corolla with conspicuous black lines .... *Coccinea*
1. Flowers yellow or orange-red-brown.
    5. Leaves pedately lobed or pinnately cleft.
        6. Leaves pedately lobed; tendrils simple.
            7. Plants glabrous; ovary thinly warty, attenuate at apex .... *Mormordica*
            7. Plants roughly scabrous; ovary densely spiny-scabrous, rounded at apex .... *Cucumis*
        6. Leaves pinnately cleft; plants loosely hirsute; tendrils bifid (cultivated) .... *Citrullus*
    5. Leaves entire, shallowly lobed or trifid-parted, the lobes acute or acuminate.
        8. Stems swollen, conspicuously jointed; inflorescence a constricted axillary raceme; tendrils simple .... *Doyerea*
        8. Stems herbaceous to woody, not swollen or jointed.
            9. Inflorescence a raceme or panicle.
                10. Inflorescence paniculate; plants dioecious; tendrils branched.

11. Corolla red or reddish-brown; leaf base shallowly cordate; stamens 5 . . . . *Fevillea*

11. Corolla greenish-yellow; leaf base sinus quadrangular; stamens 3 . . . . *Sicydium*

10. Inflorescence racemose.

12. Both staminate and pistillate inflorescences racemose; calyx cylindrical; corolla orange . . . . *Psiguria*

12. Staminate flowers in pedunculate congested racemes; pistillate flowers borne singly; calyx rotate or broadly campanulate.

13. Pistillate flowers on elongate tenuous peduncles . . . . *Melothria*

13. Pistillate flowers on short peduncles 1-2 cm long.

14. Corolla 4-5 cm dia.; leaves scabrous . . . . *Luffa*

14. Corolla 1-1.5 cm dia.; leaves smooth or soft-pubescent . . . . *Sechium*

9. Flowers solitary or few clustered in leaf axils; tendrils branched (cultivated) . . . . *Cucurbita*

KEY TO THE GENERA
(for specimens with fruit)

1. Fruit red, orange-red or black.

2. Infructescence loosely racemose; fruit subglobose, 1-2 cm dia., orange-red; leaves with glands near base . . . . *Cayaponia*

2. Infructescence a congested raceme or fruit solitary.

3. Infructescence a short axillary raceme; fruit ellipsoidal 1.2-3 cm long, red-orange . . . . *Doyerea*

3. Fruit solitary in axils, peduncle long or short.

4. Leaves soft-pubescent; infructescence paniculate, fruit pilose to glabrate, ovoid, 1.5 cm long, black; seed 1 . . . . *Sicydium*

4. Leaves scabrous; infructescence not paniculate, seeds several.

5. Fruiting peduncle tenuous, 4-6 cm long; fruit ovoid, 1.5 cm long, red to black . . . . *Melothria*

5. Fruiting peduncle stout, 1-2 cm long; fruit elliposidal, 3-6 cm long, red . . . . *Coccinea*

1. Fruit green, yellow, yellow-orange or orange when mature.

6. Leaves pedately lobed or pinnately cleft, lobes obtuse.

7. Plants glabrous.

8. Peduncles bearing 1 flower or fruit; fruit attenuate at apex, warty, orange-yellow, dehiscent; seeds enclosed in succulent red arils . . . . *Mormordica*

8. Peduncles bearing a terminal cluster of fruit; fruit rounded at apex, brown, smooth or bullate when dry, indehiscent; seeds without aril . . . . *Ceratosanthes*

7. Plants loosely hirsute or scabrous.

9. Leaves pinnately cleft; stems loosely hirsute; fruit smooth (cultivated watermelon) . . . . *Citrullus*

9. Leaves pedately lobed; plants scabrous, fruit densely spiny or slightly so (cultivated cucumber) . . . . *Cucumis*

6. Leaves cordate, entire or angled or sometimes deeply 3-lobed or lower lobes divided but apices acute or acuminate.

10. Fruits elongate, several times longer than thick.
    11. Fruits calyptrate; ridged, or smooth, cylindrical or clavate, not hard-shelled, fibrous throughout; leaves without petiolar glands . . . . *Luffa*
    11. Fruits not calyptrate nor fibrous, hard-shelled, gourd- or bottle-shaped, smooth; leaves biglandular at base . . . . *Lagenaria*
10. Fruits rarely 2 times longer than thick.
    12. Fruits one-seeded . . . . *Sechium*
    12. Fruits many-seeded.
        13. Fruits globose or depressed-globose often very large (cultivated; pumpkin, squash) . . . . *Cucurbita*
        13. Fruits globose or oblong.
            14. Fruits oblong, without a hard shell, seeds oblong, compressed.
                15. Fruits smooth, brownish, leaves and stems smooth to slightly strigose . . . . *Psiguria*
                15. Fruits spiny, green turning yellow; leaves and stems densely strigose . . . . *Cucumis*
            14. Fruits globose, 7-12 cm dia., hard-shelled, with ridge at middle; green; seeds discoid, angled, 4-6 cm dia., 1 cm thick . . . . *Fevillea*

CAYAPONIA A. Silva Manso

Cayaponia A. Silva Manso, Enum. Subst. Bras. 31. 1836, nom cons.

Monoecious or dioecious vines. Stems angulate to sulcate; tendrils simple or divided. Leaves entire, lobed, toothed, or palmately divided. Flowers mostly rather large, fascicled or in racemose or paniculate inflorescences. Calyx campanulate, with 5 small lobes or teeth apically. Corolla 5-parted, rotate or subcampanulate. Staminate flowers with 3 distinct stamens, the anther sacs flexuous, the pistillode with 3-lobed ovary. Pistillate flowers often with 3 staminodes, ovary 3-celled; ovules 1 or 2 in each locule; style 3-cleft; stigmas dilated, smooth or papillose. Fruit small, fleshy, usually 3-seeded.

TYPE: *Cayaponia diffusa* A. Silva Manso (= *C. pilosa* (Vell.) Cogn.), typ. cons.

A genus of about 60 species, found almost exclusively in the neotropics. No recent monograph is available, although Jeffrey (1971) has published an enumeration of the genus. A single species has been confirmed in the Lesser Antilles. A second species, *C. racemosa* (Miller) Cogn., is reported from the Greater Antilles (Jeffrey 1978) and from Barbados (Gooding et al. 1965), but I have seen no authentic material of it from any Lesser Antillean island. It may be distinguished by the leaf blade long decurrent on the petiole, the lax, paniculate inflorescence, and ellipsodial fruit.

Cayaponia americana (Lam.) Cogn. *in* DC., Monogr. Phan. **3:** 785. 1881. FIGURE 210.

Basionym: *Bryonia americana* Lam., Encycl. Méth. **1:** 498. 1785.
Lectotype: Antilles (Haiti or Martinique), *Bryonia olivae fructu rubro, major* Plumier, Nov. Pl. Amer. 3. 1703. (MS. and drawing, P; copy, K).
Syn.: *Cionandra graciliflora* Griseb., Fl. Brit. W. Indian Is. 287. 1860. (Type: Antigua, *Wullschlaegel s.n.* (n.v.).)
Cionandra cuspidata Griseb., Fl. Brit. W. Indian Is. 287. 1860. (Type: Dominica, *Imray* (n.v.).)

Monoecious, herbaceous vines to 6 m long; stems sulcate, glabrous; tendrils branched. Leaves with petiole 3.5-8.5 cm long; blade cordiform, entire or 3-, 5- or 7-lobed, up to 15 × 12.5 cm, base cordate, truncate or rounded, not or only just decurrent on the petiole, margins sparsely serrulate, apex attenuate acuminate and apiculate, glabrous on both sides or scabrous above. Inflorescence a short raceme or flowers solitary in leaf axils; pedicels 1-10 mm long. Flowers with calyx campanulate-tubular, 6-9 mm long, 5-toothed, the teeth ca. 2(-4) mm; corolla pale green to whitish, 5-parted almost to the base, 2-3 cm in diameter, lobes linear-oblong, tomentose inside, glabrous or puberulous outside. Staminate flowers with calyx teeth about as broad as long; stamens 3, free, triplicate. Pistillate flowers with calyx teeth longer than broad; staminodes apically glabrous; ovules 3. Fruit (sub)globose, 1-2 cm long, smooth, orange-red at maturity. Seeds 3 or fewer.

GENERAL DISTRIBUTION: Found throughout the West Indies and possibly in South America.

DISTRIBUTION IN LESSER ANTILLES: St. Barts! Barbuda!, Antigua!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Wild pumpkin, concombre marron, concombre-hallier, concombre-diable, concombre bâtard, ti concombre-chien, ti concombre-hallier.

CERATOSANTHES Adanson

Ceratosanthes Adans., Fam. Pl. **2:** 139. 1763.

Slender, monoecious or dioecious, climbing herbs. Stems glabrous or sparsely tomentose; tendrils simple. Leaves petiolate; blade 3- or 5-lobed or trifoliolate, deciduous. Inflorescence a long-pedunculate raceme; calyx tubular, 5-toothed apically; corolla rotate, deeply 5-parted, the lobes oblong to linear, deeply bifid to erose apically. Staminate flower with 3 stamens inserted at the mouth of the perianth tube; anthers sessile, broadly oblong, one 1-celled, two 2-celled; pistillode wanting or glandular. Pistillate flowers with 0 or 3 staminodes; ovary fusiform to globose; ovules few to many, horizontal on 2 placentae; style long; stigmas 2, bifid. Fruit oblong or ovoid, bullate. Seeds few to many, subglobose, smooth.

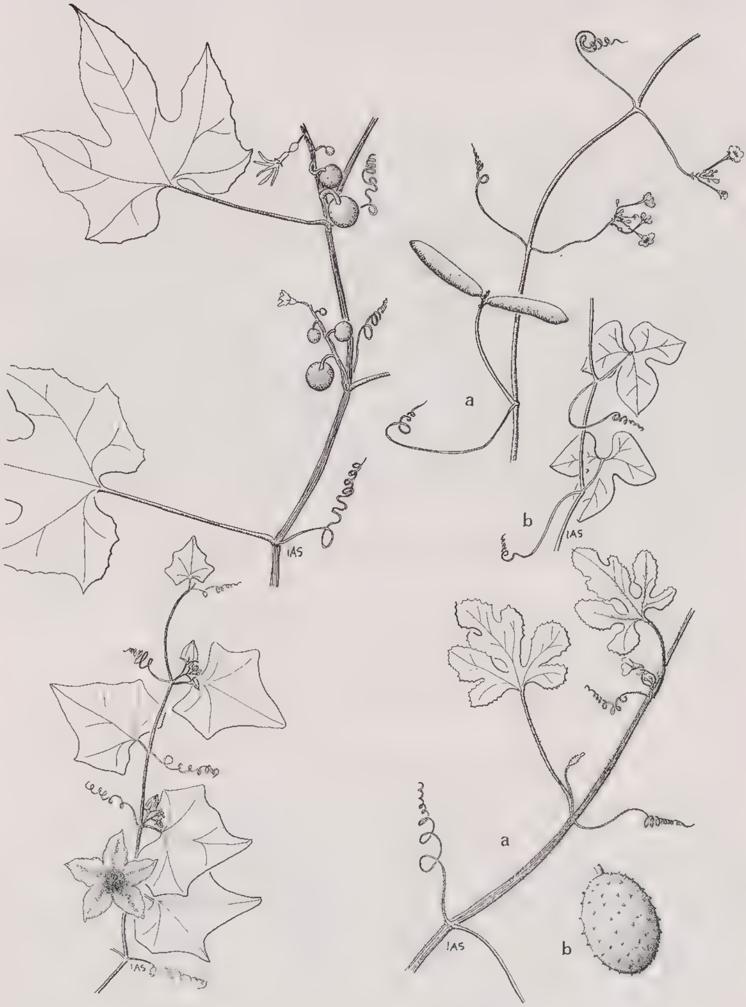


FIGURE 210 (upper left). *Cayaponia americana*: × 0.33. FIGURE 211 (upper right). *Ceratosanthes palmata*: a, fertile stem, × 0.33; b, foliage, × 0.33. Figure 212 (lower left). *Coccinea grandis*: × 0.33. FIGURE 213 (lower right). *Cucumis anguria*: a, flowering stem, × 0.33; b: fruit, × 0.33.

TYPE: *Ceratosanthes tuberosa* J. Gmelin (= *C. palmata* (L.) Urban).

A genus of five species, according to Jeffrey (1978), confined to the neotropics. One species is known from the Lesser Antilles.

Ceratosanthes palmata (L.) Urban, Repert. Spec. Nov. Regni. Veg. **15:** 323. 1918. FIGURE 211.

Basionym: *Trichosanthes palmata* L., Syst. ed. 10. 1278. 1759.
Type: Plumier plate 24, published by Burman, Pl. Amer. Plum. **1:** *t. 24.* 1755.
Syn.: *Ceratosanthes tuberosa* J. Gmelin, Syst. **1:** 102. 1791. (Type: None designated.)
Trichosanthes tuberosa (J. Gmelin) Willd., Sp. Pl. **4:** 601. 1805.

Stems slender, to 4 m long, glabrous. Leaves with petiole 1-2 cm long, blade cordiform to subhastate, trilobed, ca. 5 × 5 cm, base cordate, lobes ovate or bilobed, margins entire, apex rounded to obtuse, smooth or scabrous on both sides. Inflorescence racemose; few- to many-flowered; peduncle 5-16 cm long; pedicels 3-8 mm, straight or spiraled, puberulous. Staminate and pistillate flowers similar, with salverform perianth, white; calyx narrowly tubular, 10-16 mm long, flaring above, 5-toothed; corolla rotate, 5-lobed, 9-14 mm in diameter, the lobes apically bifid and fimbriate. Fruit narrowly ellipsoid-oblong, 3.5-4 cm × 5-8 mm, longitudinally striate, bullate at maturity, up to 30-seeded. Seeds compressed globose, ca. 3 mm long, smooth, yellowish, glabrous.

GENERAL DISTRIBUTION: The Netherlands Antilles, Lesser Antilles, and Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, the Grenadines!, Grenada!.

COMMON NAMES: Pomme-hallier-bâtard, liane-concombre.

NOTE: Often collected in leafless but flowering condition.

COCCINIA Wight & Arnott

Coccinia Wight & Arn., Prodr. Pl. Ind. Or. 347. 1834.

Dioecious, perennial, herbaceous climbers. Stems striate, glabrous; tendrils simple or bifid. Leaves simple, entire or lobed. Flowers large, solitary or in short racemes; pedicel slender; calyx campanulate, small, 5-toothed apically; corolla campanulate, large, inserted on the lip of the calyx, 5-lobed, veins darker colored. Staminate flowers with 3 stamens, the filaments free or connate above; anthers connate, 2-celled, triplicate. Pistillate flowers with 3 staminodes; ovary smooth; ovules many, horizontal; style slender; stigma 3-parted. Fruit globose to elongate, fleshy, many-seeded, indehiscent. Seeds small, compressed, testa fibrillose.

TYPE: *Coccinia indica* Wight & Arn., nom. illegit. citing *Bryonia grandis* L. = *Coccinia grandis* (L.) J. Voigt.

An old world genus with about 30 species distributed in Africa. One species has been widely introduced in the tropics generally, and it occurs in the Lesser Antilles. For details see Jeffrey (Fl. Trop. E. Africa 1967).

Coccinia grandis (L.) J. Voigt, Hort. Suburb. Calc. 59. 1845.
FIGURE 212.

Basionym: *Bryonia grandis* L., Mant. Pl. **1:** 126. 1767.
Lectotype: India (LINN 1153.2).
Syn.: *Coccinia cordifolia* sensu auct., non (L.) Cogn. (1881).

Perennial climber to 20 m long. Stems angular, white-dotted and woody in age, green and herbaceous when young, glabrous except near nodes; tendrils simple. Leaves ovate-cordate, entire to 5-lobed, 4-11 × 4.2-10 cm, base cordate, margins entire and minutely serrate, apex obtuse or acute. Flowers usually solitary, axillary, peduncle 1-2 cm long; calyx obconic, 5-toothed; corolla campanulate, 5-lobed, tube 2-2.5 cm long, limb flaring and 3-5 cm across, whitish to yellow, dark-veined. Staminate flowers with 3 stamens, the filaments connate, the anthers coherent. Pistillate flowers with 3 staminodes, ovary oblong to linear, 5-13 mm long, ovules numerous, horizontal, style slender, stigma 3-lobed. Fruit baccate, ellipsoidal, 3-6 × 1.5-3.5 cm, red when ripe, rounded at both ends. Seeds many, asymmetrically pyriform, compressed, ca. 6 × 3 mm, surface fibrillose.

GENERAL DISTRIBUTION: Native to northern tropical Africa and widely naturalized in the tropics of Asia, Australia, south Florida, the Caribbean and South America.

DISTRIBUTION IN LESSER ANTILLES: Grenada!, Barbados!.

CUCUMIS Linnaeus

Cucumis L., Sp. Pl. **2:** 1011. 1753.

Annual herbs, or from perennial rootstocks; the plants usually monoecious. Stems trailing or climbing, hispid or scabrous; tendrils simple. Leaves angular or deeply incised, dentate or palmately lobed. Flowers axillary, the calyx campanulate or turbinate, 5-toothed, the teeth subulate; corolla campanulate, 5-parted, yellow, the lobes oblong-ovate, acute apically. Staminate flowers fascicled; stamens 3, inserted near the base of the corolla; filaments free, short; anthers free or coherent apically, one 1-celled, two 2-celled, the connective elongated into an appendage. Pistillate flowers with 3 setiform or ligulate staminodes; ovary inferior; ovules numerous, horizontal; disk present; style short, simple; stigmas 3-5. Fruit globose to oblong-cylindric, indehiscent. Seeds numerous, ovate or oblong, compressed, glabrous.

LECTOTYPE: *Cucumis sativus* L. (vide Britton & Wilson, Sci. Surv. Porto Rico **6:** 264. 1925).

A genus of about 30 or fewer species, mostly from Africa with a few from Asia. Originally Old World in distribution, the genus now occurs in most regions of the world due to adventive or cultivated species. Three species are known from the Lesser Antilles, two only as cultivated food plants.

CULTIVATED SPECIES

C. melo L., melon (including the cantaloupe or muskmelon). Known to be cultivated on St. Barts and reported from Guadeloupe and Martinique (Fournet 1978).

C. sativus L., cucumber, concombre, cornichon. Known to be cultivated on St. Barts, St. Lucia and Dominica, and reported from Guadeloupe and Martinique (Fournet 1978).

Cucumis anguria L., Sp. Pl. **2:** 1011. 1753. FIGURE 213.

Lectotype: A plant cultivated at Uppsala, Sweden (LINN 1152.6).

Annual, monoecious herb. Stem stout, trailing or climbing, 1-2 m long, rough and hispid. Leaves with petiole 3-10.5 cm long; blade ovate in outline, deeply 3- or 5-lobed, 3-9.1 × 2.8-9.5 cm, base cordate, margins sinuate and minutely toothed, apex obtuse, membranous, scabrous to hispid. Flowers pedicellate, small; calyx campanulate, 5-7 mm long, 5-toothed, the teeth subulate, 2-4 mm long; corolla campanulate, pale yellow, ca. 1 cm in diameter, 5-lobed, the lobes ovate and acute, pubescent. Staminate flowers fascicled (rarely solitary), the pedicel filiform, 1-2 cm long; stamens free, filaments 1-2 mm long, glabrous; anthers ovate, 2 mm long, the connective broad with a deeply lobed appendage; pistillode 3-lobed. Pistillate flowers solitary, the pedicel stout, 5-10 cm long, lengthening in fruit, hirsute; ovary ovoid, oblong, to cylindric, tuberculate; style 1-2 mm long; stigmas connate, 2 mm long. Fruit ovoid to ellipsoid-oblong, 4-4.5 × 3-3.6 cm, echinate, pale yellow when ripe, indehiscent. Seeds oblong, 4-5 × 2-2.5 mm, white.

GENERAL DISTRIBUTION: Originally from tropical Africa, now widely established in tropical South and Central America and the West Indies.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Barts, Antigua, Saba!, St. Eustatius!, Guadeloupe, Martinique!, St. Lucia!, St. Vincent, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Bur gherkin, West Indian gherkin, warty cucumber, wild cucumber, ti concombre.

DOYEREA Grosourdy

Doyerea Grosourdy, Med. Bot. Criollo **1**(1): 201. 1864.

Dioecious perennial climber, becoming woody with age. Stem articulated at the nodes, the lower stout and thick, upper stems succulent when young, short tomentose or glabrate; tendrils simple. Leaves petiolate, blade cordiform and variously lobed. Inflorescence axillary, racemose, densely clustered on a fleshy peduncle. Flowers small, calyx with 5 sepals, valvate, erect at anthesis; corolla campanulate, yellowish-green, shortly pilose, 5-lobed, the lobes acute. Staminate flowers with 3 stamens; anthers united, one 1-celled, two 2-celled, glabrous. Pistillate flowers subsessile, with 3 minute staminodes; ovary bilocular, striate, villous below; ovules several in each locule, horizontal; style thick, simple; stigma 4-lobed. Fruit subsessile, elliptic to oblong, fleshy, slightly rostrate apically, indehiscent. Seeds few, pyriform, slightly compressed.

TYPE: *Doyerea emetocathartica* Grosourdy.

A genus considered to have 1, or at most 2, species confined to the American tropics, as interpreted by Jeffrey (Kew Bull. **33:** 347-348. 1978). Earlier authors have included *Doyerea* in *Corallocarpus* Welw. ex Hooker f. sensu lato, a group of perhaps 30 species found in the Old World tropics.

Doyerea emetocathartica Grosourdy, Med. Bot. Criollo **2:** 338. 1864.
FIGURE 214.

Type: Not designated.
Syn.: *Corallocarpus emetocatharticus* (Grosourdy) Cogn., Mém. Soc. Roy. Bot. Belgique **30:** 279. 1891.

Climbing, much-branched perennial; the mature stems softly woody and glabrous, fleshy and softly tomentose when young; tendrils simple and becoming woody. Leaves with slender petiole 1-3 cm long; blade orbicular or broadly triangular in outline, 4-9 × 5-10 cm, entire to deeply 3-lobed, base broadly rounded, margins entire and remotely toothed, apex obtuse, whitish-tomentose beneath, subglabrous above. Staminate flowers with 5 narrowly triangular, erect sepals, 0.5 mm long; corolla tan-yellow, 5-lobed, lobes ovate-oblong, acute, shortly pilose; anthers coherent, the connectives shortly produced beyond the apex. Pistillate flowers with 3 staminodes; ovary striate, densely villous. Fruit sessile, narrowly ovoid, ellipsoid, or oblong, 1.3-2 cm long, smooth, becoming rugose on drying, greenish with broken white lines becoming red at maturity. Seeds 3-4.5 × ca. 3 mm, obliquely truncate at the base, with a pale winglike margin apically.

GENERAL DISTRIBUTION: From Mexico south through Central America to Colombia and Venezuela, and throughout the West Indies.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, the Grenadines!.

FEVILLEA L.

Fevillea L., Sp. Pl. **2:** 1013. 1753.

Climbing vines, herbaceous or suffrutescent, dioecious; stems striate, glabrous; tendrils bifid near the apex, coiling both above and below the fork. Leaves petiolate, blade cordiform, angulate or lobed, margins with prominent glands terminating the veins. Inflorescences paniculate. Flowers small, yellowish-green; calyx 5-lobed, the sepals imbricate, spreading at anthesis; corolla 5-lobed, petals unguiculate, ovate or oblong, spreading. Staminate

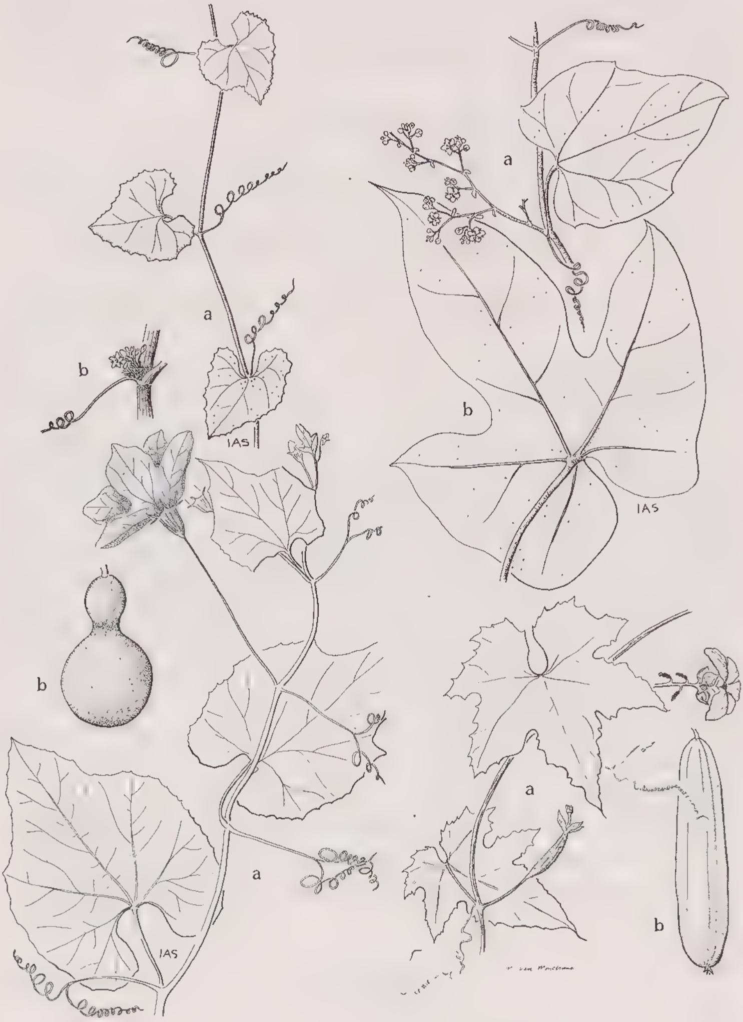


FIGURE 214 (upper left). *Doyerea emetocathartica*: a, foliage, × 0.3; b, flowering node, × 0.3. FIGURE 215 (upper right). *Fevillea cordifolia*: a, flowering shoot, × 0.3; b, mature leaf, × 0.3. FIGURE 216 (lower left). *Lagenaria siceraria*: a, flowering shoot, × 0.3; b, fruit, × 0.05. FIGURE 217 (lower right). *Luffa aegyptiaca*: a, flowering shoot, × 0.3; b, fruit, × 0.1.

flowers with 5 free stamens; anthers 1-celled. Pistillate flowers with 5 staminodes; the ovary incompletely 3-locular; ovules 6 or fewer per locule; styles 3; stigmas reniform and bilobed. Fruit large, gourd-like, operculate apically, incompletely 3-celled. Seeds large, flattened discoidal, the testa thick.

LECTOTYPE: *Fevillea cordifolia* L., vide Britton & Wilson, Sci. Survey Porto Rico **6:** 270. 1925.

A genus of about 10 species, all confined to the American tropics.

Fevillea cordifolia L., Sp. Pl. **2:** 1013. 1753. FIGURE 215.

Type: Not designated.

Liana, stems stout, glabrous, with slender branches; tendrils bifid near the apex. Leaves with petiole 2-8 cm long; the blade simple, cordiform, entire or lobed, 6-15 × 4-12 cm, base cordate, margins with large glandular teeth at ends of veins, apex acuminate. Inflorescence paniculate, 10-60 cm long, the rachis puberulent, each branch bracteolate at the base; flowers with pedicel 1-2 mm long; calyx shallowly campanulate, greenish-yellow, puberulent, 2-3 mm long, 5-lobed, the lobes broadly lanceolate and acute; corolla subrotate, greenish-yellow or brown, 6-10 mm in diameter, 5-lobed, the lobes orbicular-ovate and rounded. Staminate flowers with 5 free stamens, ca. 1 mm long, the anthers 1-celled. Pistillate flowers with 5 staminodes; ovary globose, 3-4 mm in diameter, puberulent; styles ca. 1 mm long, connate to near the middle; stigmas fused, capitate and 3-lobed. Fruit globose, green, 7-12 cm in diameter, with a circumferential scar below the middle. Seeds flattened discoidal, 4-6 cm in diameter, ca. 1 cm thick, testa thick, brownish to white.

GENERAL DISTRIBUTION: Found throughout Central America, the West Indies, and northern South America, either in cultivation or spontaneous.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Martinique.

COMMON NAME: Ti-concombre.

No recent collections of this species have been made on either Guadeloupe or Martinique. We record it here based on the published accounts of Cogniaux (*in* DC., Monogr. Phan. **3:** 942. 1881) and Fournet (1978, p. 582), who report it from these islands.

LAGENARIA Seringe

Lagenaria Ser., Mém. Soc. Phys. Genève **3**(1): 25, *t. 2.* 1825.

Herbaceous, annual, monoecious, softly pubescent vines; tendrils bifid near the base. Leaves long-petiolate, the petiole with a pair of lateral, hornlike glands near the junction with the blade; the blade simple, rounded-cordate, angulate or lobed. Flowers solitary, axillary, large, white, nocturnal. Staminate flowers long-pedunculate, calyx funnelform to campanulate, 5-lobed; corolla with 5 free petals; stamens 3, filaments free, inserted low on the receptacle, anthers two 2-celled, one 1-celled, triplicate, slightly coherent, connective not produced beyond the apex. Pistillate flowers similar to the staminate, but peduncle shorter and receptacle smaller; staminodes 3, minute; ovules numerous, horizontal; style short, thick; stigma 3-lobed, fleshy. Fruit large, variously shaped, indehiscent, becoming hard-shelled with spongy pulp. Seeds many, obovate-oblong, compressed, smooth marginate, often bicornute at one end.

TYPE: *Lagenaria vulgaris* Ser. (=*L. siceraria* (Molina) Standley).

A monotypic genus of widespread occurrence in the tropics generally. Perhaps native to tropical Africa, the species was established in the American tropics in pre-Columbian times.

Lagenaria siceraria (Molina) Standley, Publ. Field Columbian Mus., Bot. Ser. **3:** 435. 1903. FIGURE 216.

Basionym: *Cucurbita siceraria* Molina, Sag. Stor. Nat. Chili 133. 1782.
Type: Chile, *Molina* (holotype probably destroyed).
Syn.: *Cucurbita lagenaria* L., Sp. Pl. 2: 1010. 1753. (Lectotype: LINN 1151.1).
Lagenaria vulgaris Ser., Mém. Soc. Phys. Genève **3**(1): *t. 2.* 1825. (Type: As for *Cucurbita lagenaria* L.).

Vigorous vine with coarse, often high-climbing, stems to 6 m long, softly and densely pubescent. Leaves with petioles 3-9 cm long; blade broadly ovate or reniform to cordate-triangular, 6-15 × 7-22 cm, angulate or trilobate, base cordate, margins sinuate-dentate, apex apiculate. Flowers axillary, usually solitary, calyx 5-toothed, the teeth triangular to linear, 3-4 mm long; corolla spreading, petals broadly obovate to oblong-ovate, margins crisped, apex emarginate and apiculate, pubescent on both sides. Staminate flowers with peduncle usually longer than the subtending petiole; receptacle 1-1.5 cm long, petals 3-4 cm long; filaments free, glabrous; anthers 8-10 mm long, free or slightly connate. Pistillate flowers with peduncle equaling or shorter than the subtending petiole; receptacle < 1 cm long; petals 2-2.5 cm long; staminodes 3; ovary ovoid to cylindrical, tomentose. Fruit indehiscent, variable in shape and size, usually large, whitish to yellowish when ripe, smooth, glabrous. Seeds obovate to almost rectangular, ca. 15 mm long, compressed, marginate, the apex truncate or bicornute.

GENERAL DISTRIBUTION: Found throughout the tropics and subtropics worldwide.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba, Guadeloupe!, Dominica!, Martinique!, St. Vincent, Barbados!.

COMMON NAMES: Bottle gourd, sweet calabash, gourde, calebasse musquée, calebasse douce, courge, longe.

NOTE: This species is certainly cultivated on some islands, and it has perhaps become naturalized as well.

LUFFA Miller

Luffa P. Miller, Gard. Dict., Abridg. ed. 4. 1754.

Herbaceous annual vines, climbing or trailing, monoecious. Stems grooved; tendrils simple or 2-5-parted below the middle. Leaves petiolate, blade simple, 5-7-lobed. Staminate flowers in bracteose racemes; calyx 5-lobed, petals 5, free; stamens 3, free, anthers filamentous, flexuous. Pistillate flowers solitary, axillary; staminodes 3, ovary elongate; ovules numerous, horizontal; style columnar; stigma 3-lobed. Fruit elongate to cylindrical, 3-celled, operculate at apex, fibrous within. Seeds many, compressed, winged or wingless, smooth- to rough-textured.

TYPE: *Luffa aegyptiaca* P. Miller, a new name for *Momordica luffa* L.

A genus of less than 10 species, primarily Old World in distribution. One species is endemic in the neotropics, and two others are widely cultivated, and sometimes spontaneous there. Both of the latter occur in the Lesser Antilles.

KEY TO THE SPECIES

Ovary cylindric; fruit ribless; seeds smooth, winged . . . . *L. aegyptiaca*
Ovary clavate; fruit sharply 10-ribbed; seeds rugose, wingless . . . . . *L. acutangula*

Luffa acutangula (L.) Roxb., Hort. Beng. 70. 1814.

Basionym: *Cucumis acutangula* L., Sp. Pl. **2:** 1011. 1753.
Neotype: LINN 1152.7 (vide Jeffrey, Kew Bull. **34:** 792. 1980).

Herbaceous, climbing or trailing, monoecious, glabrous or scabrous vines. Stems angular; tendrils 3-parted. Leaves with petiole 8-10 cm long; blade rounded, palmately 5-7 lobed, 15-20 cm long and broad, pale green in life, scabrous on both sides. Flowers with calyx 5-toothed, the sepals keeled, ca. 12 × 6 mm; petals 5, free, obcordate, ca. 2 × 2-2.5 cm, emarginate and mucronulate apically, pale yellow. Staminate flowers in long racemes; stamens 3; filaments 3-4 mm long, villous. Pistillate flowers solitary, axillary; pedicel 5-10 cm long; staminodes reduced, glandular; ovary claviform, 10-angled, constricted apically; ovules numerous, horizontal; style short, thick; stigmas globose. Fruit club-shaped, acutely 10-angled, 15-30 cm long and 6-10 cm in diameter, dry and dehiscent apically at maturity. Seeds many, ovate, compressed, 11-12 × 7-8 mm and 2 mm thick, blackish, rough, not winged.

GENERAL DISTRIBUTION: Probably native to tropical Asia and Africa, but cultivated and subspontaneous in the tropics generally.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe, Dominica, Martinique, St. Vincent.

COMMON NAMES: Pitenga, torchon, torchon-liane.

Luffa aegyptiaca P. Miller, Gard. Dict. edit. 8. [without pagination] 1768. FIGURE 217.

Type: Presumably a cultivated plant (n.v.).
Syn.: *Momordica luffa* L., Sp. Pl. **2.** 1009. 1753. (Lectotype: from a plant cultivated at Hartekamp (BM).)
Momordica cylindrica L., Sp. Pl. **2:** 1009. 1753. (Lectotype: Based on Hermann, Hort. Lugd.-Bat. Cat.: 482. 1687.)
Luffa cylindrica (L.) M. Roemer, Fam. Nat. Syn. Monogr. **2:** 63. 1846.

Herbaceous, climbing or trailing, monoecious vines; stems angular, scabrous at the nodes; tendrils 3-fid. Leaves with stout petiole, 10-12 cm long; blade round in outline, palmately 3-5-7-lobed, 15-25 cm in diameter, base cordate, margins sinuately-dentate, apex acute or acuminate. Flowers with broadly campanulate receptacle; calyx 5-toothed, the teeth triangular, not keeled, ca. 1.5 cm long; petals 5, free, oblong-cuneiform, 2-3 × 1-1.5 cm, apex rounded or slightly emarginate, yellow, evanescent. Staminate flowers in racemes, rachises 10-15 cm long; pedicels 0.5-2 cm long; stamens free, five 1-celled, or three with one 1-celled and two 2-celled, filaments 6-8 mm long, slightly villous, anthers 6 mm long. Pistillate flowers solitary, from the same axils as the staminate, pedicel stout, 2-10 cm long; ovary cylindric, not constricted apically; ovules numerous, horizontal; styles connate; stigmas 3, bilobate. Fruit elongate, cylindrical to clavate, smooth, 15-50 × 6-10 cm, green-striate with darker lines, operculate near the apex. Seeds ovate, compressed, ca. 12 × 8-9 mm and 2-2.5 mm thick, smooth, the margin narrowly winged.

GENERAL DISTRIBUTION: Probably native to tropical Asia and Africa, but cultivated and subspontaneous in the tropics generally.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Loofah, plant sponge, torchon, éponge végétale, serbette di pober, liane torchon.

NOTES: The taxonomy for this species has been much confused. Recently Nicolson et al. (Interpret. Rheede's Hort. Malab. Regnum Veget. **119:** 97-98. 1988) have sorted out the nomenclature and concluded that *Luffa aegyptiaca* is the correct name for this species, replacing the widely accepted *Luffa cylindrica* (L.) M. Roemer.

This species persists from cultivation or becomes established in areas where it was introduced. The young fruits are eaten as a vegetable and the mature fruits are used as a substitute for sponge when the flesh has been removed, leaving the tough vascular fibers.

MELOTHRIA L.

Melothria L., Sp. Pl. **1:** 35. 1753.

Herbaceous, monoecious vines, the stems slender, climbing, annual or from perennial rootstocks; tendrils simple or bifid. Leaves petiolate, entire or lobed, membranous. Flowers small, receptacle campanulate; calyx 5-toothed, green; corolla deeply 5-parted. Staminate flowers pedunculate in racemes, stamens 3, filaments free, anthers free or coherent; pistillode globose or annular. Pistillate flowers solitary, from same axil as staminate raceme; staminodes 3 or wanting; disk annular; ovary ovoid; ovules numerous, horizontal; style short; stigmas 3, linear. Fruit berrylike, globose or ovoid, fleshy. Seeds ovoid, globose or oblong, compressed.

TYPE: *Melothria pendula* L.

Formerly about 85 species were assigned to this genus, but Jeffrey (Kew Bull. **15:** 337-371. 1962) has narrowed the generic concept to a group of about 10 species, all found in the neotropics. One species is widespread in the Lesser Antilles.

Melothria pendula L., Sp. Pl. **1:** 35. 1753 FIGURE 218.

Type: Without provenance or collector (LINN 51.1).
Syn.: *Bryonia guadalupensis* Sprengel, Syst. Veg. **3:** 580. 1881. (Type: Guadeloupe, *Bertero s.n.* (n.v.).)
Melothria guadalupensis (Spreng.) Cogn. in DC., Monogr. Phan. **3:** 580. 1881.
Melothria pervaga Griseb., Fl. Brit. W. Indian Is. 289. 1860. (Syntypes: St. Kitts, *Wullschlaegel s.n.* (n.v.); Antigua, *Wullschlaegel s.n.* (n.v.); Dominica, *Imray s.n.* (n.v.); St. Vincent, *Guilding s.n.* (n.v.).)

Herb; stem slender, climbing or trailing, glabrous; tendrils filiform, simple. Leaves with petiole 2-6 cm long, striate, subglabrous; blade broadly ovate-cordate or 5-angular, entire or 3- to 5-lobed, 5-10 x 4-7 cm, base cordate, margins undulate or sparsely toothed, apex acute or short acuminate, rough on both sides. Flowers pedicellate; calyx campanulate, 2.5 x 2 mm, pilose, 5-toothed, the teeth subulate, 0.5-1 mm long; corolla yellow, 3-4 mm in diameter, the lobes ovate-oblong, acute apically, villous. Staminate flowers in short racemes, 2-3 cm long; pedicels 2-3 mm long; anthers densely ciliate, connective broad and not produced into appendages. Pistillate flowers solitary, pedicel slender, 3-6 cm long; ovary ovoid-oblong; style short; stigmas bilobed. Fruit ovoid to subglobose, shortly beaked, 1.5 x 1 cm, red to purplish-black when ripe. Seeds obovoid, 4-5 x 2-3 mm, whitish, winged.

GENERAL DISTRIBUTION: A widespread species in the Americas, ranging from the southern United States through Mexico and Central America to Argentina, and throughout the West Indies and Bahamas.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Saba!, St. Eustatius!, St. Kitts, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

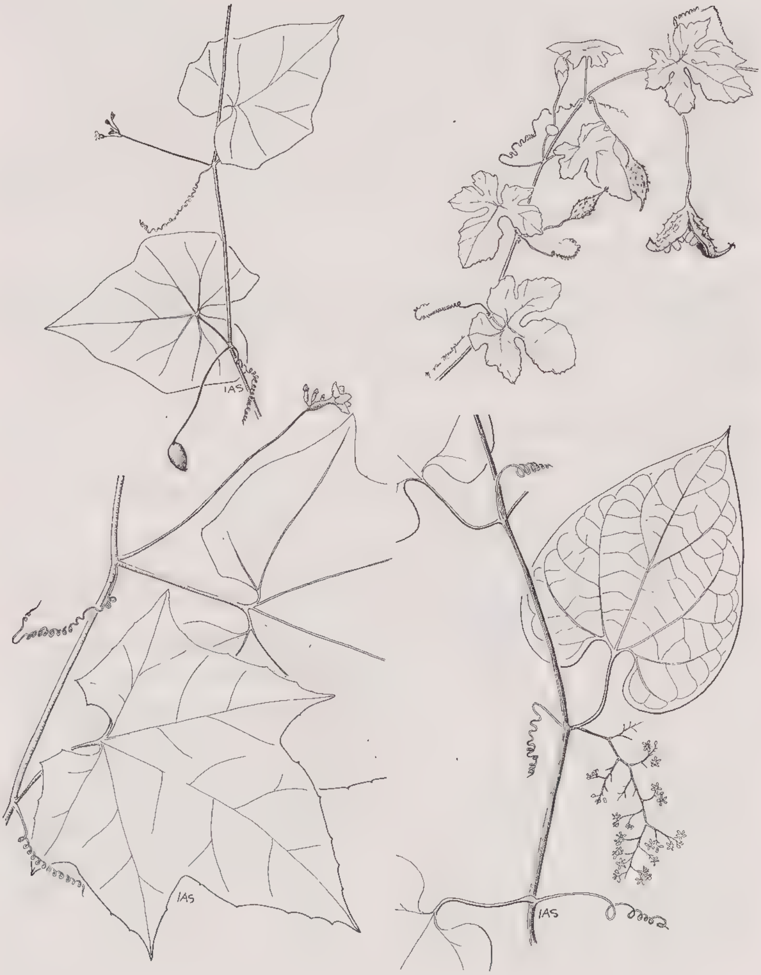


FIGURE 218 (upper left). *Melothria pendula*: × 0.3. FIGURE 219 (upper right). *Momordica charantia*: × 0.3. FIGURE 220 (lower left). *Psiguria umbrosa*: × 0.3. FIGURE 221 (lower right) *Sicydium tamnifolium*: × 0.3.

COMMON NAMES: Concombre diable, concombre-poison, ti concombre-hallier, small wild cucumber.

A weedy species found in disturbed sites, along roadsides, and near human habitations. The species is quite polymorphic and several segregate taxa have been recognized based on seemingly distinctive morphologies. Recent authors (Dieterle 1976; Wunderlin 1978; Jeffrey, pers. comm.) have all adopted a broad concept for *M. pendula* that incorporates these local variants.

MOMORDICA L.

Momordica L., Sp. Pl. **2:** 1009. 1753.

Annual climbing or repent, monoecious herbs; tendrils simple or bifid. Leaves petiolate, entire, lobed or 3-9-fid. Flowers yellow (rarely white); pedicels often with a bract; calyx campanulate or funnelform, short, 5-toothed, the teeth ovate-lanceolate; corolla rotate or campanulate, 5-lobed, the lobes obovate or oblong, ribbed. Staminate flowers in corymbs or racemes, rarely solitary; stamens usually 3, filaments free, short, inserted on the calyx lip, anthers tardily free, connective not elongated; pistillode wanting or glandular. Pistillate flowers solitary; staminodes wanting or glandular; ovary oblong or fusiform; ovules numerous, horizontal; style slender; stigmas 3, entire or lobed. Fruit a fleshy berry, oblong, fusiform or cylindric, indehiscent or opening by 1 to 3 valves. Seeds few to many, turgid or compressed.

LECTOTYPE: *Momordica balsamina* L., vide Britton & Millspaugh, Bahama Fl. 425. 1920.

A genus of about 45 species, primarily African in distribution, with a few species native to tropical Asia. Two species have become ubiquitous in the tropics worldwide, and both are found in the Lesser Antilles.

KEY TO THE SPECIES

Leaves lobed to about the middle; bracts of staminate peduncle closely subtending the flower . . . . *M. balsamina*

Leaves lobed below the middle; bracts of staminate peduncle borne below the middle . . . . *M. charantia*

Momordica balsamina L., Sp. Pl. **2:** 1009. 1753.

Lectotype: A plant cultivated at Hartekamp, Holland (BM).

Stems to 2 m long, glabrous or pubescent; tendrils simple. Leaves with petiole 4-60 mm long; blade broadly ovate, reniform or orbicular in outline, 1-9 x 1.2-12 cm, palmately 3-5-lobed to about the middle, lobes rhomboidal, margins sharply sinuate-toothed. Flowers solitary, peduncle with a bract near the apex; calyx 5-parted, tube obconic, 2 mm long, lobes ovate-acuminate, 5-7 mm long, green; corolla 5-parted, lobes rounded apiculate, 10-15 x 8-12 mm, yellow with green veins. Staminate flowers solitary, peduncle 1.5-3.5

cm long, bracteose near the apex; bract broadly ovate-cordate, 4-18 x 9-34 mm, toothed; pedicel slender, 1.8-5.5 cm long. Pistillate flowers solitary, the peduncle 1.5 mm long, bract ovate, 2 x 2 mm; ovary fusiform, 6-7 x ca. 3 mm, minutely tuberculate. Fruit ovoid-ellipsoid, 2.5-3.5 x 1.9-2.5 cm, orange-red, terete or tubercled, the tubercles in longitudinal rows. Seeds ovate-oblong, compressed, 9-11 x 5-6 mm and 2-3 mm thick, margins 2-grooved, testa sculptured.

General distribution: Native to tropical Africa, introduced to tropical Asia, Australia, and the Americas.

Distribution in Lesser Antilles: St. Barts, Guadeloupe, Martinique.

This species is reported to be cultivated, and perhaps spontaneous, in several recent floras. No specimens have been seen, and the description is based on that of Jeffrey (Fl. Trop. E. Africa 32. 1967).

Momordica charantia L., Sp. Pl. **2:** 1009. 1753. Figure 219.

Lectotype: A plant cultivated at Hartekamp, Holland (BM).

Syn.: *Momordica charantia* var. *pseudobalsamina* Griseb., Fl. Brit. W. Indian Is. 287. 1860. (Syntypes: Antigua, *Wullschlaegel s.n.* (n.v.), Guadeloupe, *Sieber s.n.*) (n.v.).

Momordica charantia var. *muricata* Griseb., Fl. Brit. W. Indian Is. 287. 1860. (Syntypes: Antigua, *Wullschlaegel s.n.* (n.v.), Dominica, *Imray s.n.* (n.v.).)

Stems to 8 m long, more or less pubescent; tendrils simple, bracteose above the base. Leaves with petiole 2.5-7 cm long; blade suborbicular or reniform in outline, 5-12 cm in diameter, deeply 5- to 7-lobed, lobes ovate-oblong, lobed or toothed but not sharply so. Flowers solitary, long-stalked; peduncle bracteose below the middle, the bract reniform or orbicular-cordate, sessile, 5-15 mm wide; calyx 5-parted, sepals ovate-lanceolate, 4-6 x 2-3 mm, acute; corolla 5-parted, yellow, the lobes 1.5 x 0.8-1.2 cm, obtuse or emarginate apically. Staminate flowers with pedicel 5-15 cm long, the bract thus remote from the flower. Pistillate flower with pedicel 5-10 cm long; ovary fusiform, mucronate, 8-30 x 2-4 mm. Fruit oblong, acuminate at both ends, 8-30 cm long, tuberculate, yellow-orange, dehiscing by 3 valves from the apex. Seeds embedded in red arils, oblong, 12-16 x 5-9 mm and 3-4 mm thick, compressed, slightly 3-lobed at both ends.

General distribution: Originally native to the Old World tropics, now pantropical. Common throughout the West Indies.

Distribution in Lesser Antilles: St. Martin!, St. Barts!, Saba!, St. Eustatius!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

Common names: Pome coolie, pomme-coulie, ti-concombre cooli, maiden apple, maiden's blush, pomme-merveille, pomme z'Indiens, wild balsam apple.

PSIGURIA Arnott ex Hooker

Psiguria Arn. *in* Hooker, J. Bot. **3:** 247. 1841.

Syn.: *Anguria* Jacq., Enum. Syst. Pl. 9, 31. 1760, non Miller (1754).

Dioecious lianas or herbaceous climbers; stems sulcate; tendrils simple. Leaves petiolate, blade entire, lobed or 3-5-foliolate. Flowers with calyx cylindrical, 5-lobed, corolla rotate, 5-lobed. Staminate flowers clustered apically on long peduncles; stamens 2, free, included, filaments short, anthers linear or oblong, thecae straight, rarely replicate below. Pistillate flowers 1 to 3 on short peduncles; staminodes 2, minute; ovary ovoid, 2-carpellate; ovules numerous, horizontal; styles connate for most of their length; stigmas 2-branched. Fruit ovoid to oblong, indehiscent. Seeds many, oblong, compressed.

LECTOTOYPE: *Psiguria pedata* (L.) R.A. Howard (vide Wunderlin *in* Ann. Missouri Bot. Gard. **65:** 343. 1978).

A poorly defined genus containing less than 12 species, all found in the neotropics. Howard (J. Arnold Arbor. **54:** 435-470. 1973) discussed the need for supplanting the more familiar generic name *Anguria* Jacquin with *Psiguria* Arnott *in* Hooker. Two species have been reported from the Lesser Antilles. Jeffrey (Kew Bull. **33:** 347-380. 1978) confirms that *Psiguria umbrosa* (Kunth) C. Jeffrey occurs in the Lesser Antilles, but he has seen no authentic material of the second species, *P. pedata* (L.) Howard (=*P. trilobata* (L.) Howard). Jeffrey (pers. comm., 1979) suggests that reports for the latter from the Lesser Antilles are misidentifications of the former species.

Psiguria umbrosa (Kunth) C. Jeffrey, Kew Bull. **33:** 353. 1978.
FIGURE 220.

Basionym: *Anguria umbrosa* Kunth *in* H.B.K., Nov. Gen. Sp. **2:** 121. 1817.
Type: Venezuela, *Bonpland 165* (holotype, P).

Stem stout from a tuberous root; tendrils simple. Leaves with stout petiole, 3-4 cm long; blade orbicular-ovate in outline, 8-20 cm in diameter, 3- to 5-lobed, the lobes ovate to lanceolate, entire, acute to acuminate, glabrous or slightly pubescent on the undersurface. Staminate flowers 5 to 20, on peduncle 10-20 cm long; pedicels 2-4 mm long; calyx greenish, subcylindric, 8-12 mm long, 5-toothed, the teeth triangular; corolla orange, 5-lobed, the lobes ovate, 1-2 cm long, acute, villous or papillose. Pistillate flowers 1 to 5, on a peduncle 2-5 cm long. Fruit oblong, rostrate, 3-5 cm long, brownish.

GENERAL DISTRIBUTION: The Lesser Antilles, Trinidad and Tobago, Colombia, Venezuela, and Brazil.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Concombre bâtard.

This species is poorly known in herbaria, particularly pistillate and fruiting material. The description is based on the scant information available from the literature.

SECHIUM P. Br.

Sechium P. Browne, Civ. Nat. Hist. Jamaica 355. 1756, nom. cons.

Perennial monoecious vines; stems scabrous or hispidulous, high-climbing; tendrils 3- to 5-parted. Leaves petiolate, blade ovate-cordate in outline, palmately lobed or angulate, membranaceous. Pistillate inflorescences solitary and axillary to the staminate. Flowers with shallowly campanulate calyx; corolla 5-parted to the base. Staminate flowers in axillary racemes or panicles; stamens 5, filaments fused into a central column, anthers sigmoid-flexuous. Pistillate flowers solitary, in the same axils as the staminate inflorescences, smaller than the staminate, ovary obovoid, unilocular; ovule 1, pendulous; style short, slender; stigma subglobose. Fruit pyriform, slightly compressed, fleshy, indehiscent. Seed one, large, germinating within the fruit.

TYPE: *Sechium edule* (Jacq.) Sw., typ. conserv.

As defined by Jeffrey (Kew Bull. **33:** 360-361. 1978), there are fewer than 10 species in the genus, all confined to Central America. One is widely cultivated as a vegetable and has become locally spontaneous in the Lesser Antilles.

Sechium edule (Jacq.) Swartz, Fl. Ind. Occid. **2:** 1150. 1800. FIGURE 222.

Basionym: *Sicyos edulis* Jacquin, Enum. Syst. Pl. 32. 1760.
Type: Cuba, *Jacquin s.n.* (not found).

Rampant climber, stems to 10 m long, stout, tendrils 3-fid. Leaves with petiole 4-15 cm long; blade broadly ovate or suborbicular in outline, 6-20 cm in diameter, angulate or shallowly but sharply lobed, base deeply cordate, margins entire or slightly denticulate, apex acute. Flowers with broad and shallowly campanulate receptacle; sepals triangular, 5-6 x 1-1.5 mm; corolla subrotate, 5-lobed, the petals triangular or oblong-triangular, 6-7 mm long, acute, white, pale green or yellowish, glabrate to finely papillate. Staminate flowers in interrupted racemes with distant fascicles of 2 to 6 flowers along a peduncle 10-30 cm long; pedicel 1.5-2 mm long. Pistillate flowers solitary, slightly smaller than the staminate; peduncle <1.5 mm long; ovary obovoid, constricted below the receptacle; style columnar, 2-4 mm long, glabrous; stigma subglobose, ca. 4 mm in diameter. Fruit green, yellow or white, 8-18 x 6-12 cm, smooth or with fleshy spines, sometimes splitting open apically.

GENERAL DISTRIBUTION: Unknown in the wild state, cultivated throughout the tropics and common in the West Indies.

DISTRIBUTION IN LESSER ANTILLES: Saba, Guadeloupe!, Dominica!, Martinique!, St. Vincent, Barbados.

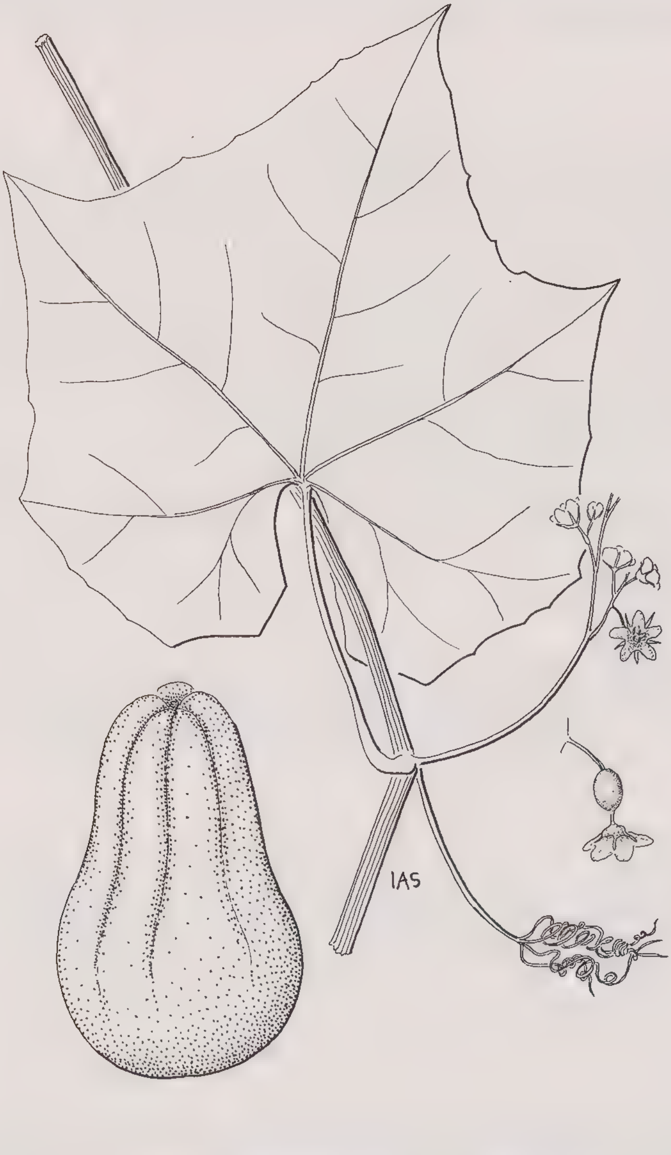


FIGURE 222. *Sechium edule*: a, flowering shoot, × 0.6; b, pistillate flower, × 0.6; c, fruit, × 0.2.

COMMON NAMES: Chocho, christophine, chouchoute, chayotte.

All parts of this plant are edible: roots, leaves, flowers, fruits, and seeds. It is cultivated and widely escaped and sppontaneous.

SICYDIUM Schlechtendal

Sicydium Schldl., Linnaea **7:** 388. 1832.

Scandent, dioecious herbs; stems tomentose or glabrous; tendrils bifid near the apex. Leaves petiolate, blade ovate or oblong-ovate, entire, emarginate or cordate at the base. Inflorescences paniculate; flowers minute, white; pedicels slender, bracteose; calyx rotate, 5-lobed, sepals ovate to linear; corolla deeply 5-parted, petals lanceolate to ovate-triangular. Staminate flowers with 3 stamens; filaments short; anthers two 2-celled, one 1-celled, thecae short and straight; pistillode wanting. Pistillate flowers with 3 staminodes; ovary ovoid, unilocular; ovule 1, pendulous; styles 3, spreading; stigmas linear. Fruit small, globose, fleshy, indehiscent. Seed 1, globose, testa rough with sharp ridges, crustaceous.

TYPE: *Sicydium schiedeanum* Schldl.

About 7 species distributed from southern Mexico through Central America to South America.

Sicydium tamnifolium (H.B.K.) Cogn. *in* DC., Monogr. Phan. **3:** 905. 1881. FIGURE 221.

Basionym: *Fevillea tamnifolia* H.B.K., Nov. Gen. Sp. **7:** 175. *t. 640.* 1825.
Type: Colombia, *Humboldt & Bonpland s.n.* (holotype, P, n.v.)
Syn.: *Sicydium tamnifolium* var. *dussii* Cogn., Mém. Soc. Roy. Bot. Belgique **30:** 277. 1891. (Type: Martinique, *Duss 93* (holotype, B, probably destroyed; isotype, GH!).)
Sicydium dussii (Cogn.) Urban, Repert. Spec. Nov. Regni. Veg. **17:** 164. 1920. (Type: Same as the preceding.)

Slender, much-branched, softly pubescent climbers; stems grooved, villous. Leaves with petiole 1.5-4.5 cm long; blade oblong-ovate to broadly ovate, 5-10 x 4-9 cm, base cordate, entire or slightly angulate-lobate, apex acute, membranaceous, softly villous or subtomentose on both sides. Inflorescence 4-12(-18) cm long, bracteolate, branches divaricate, axis densely hairy; pedicels 1.5-3 mm long, jointed in the lower half. Flowers minute, greenish-white; receptacle shallowly campanulate; sepals ovate-triangular, 0.5 mm long, reflexed; petals lanceolate-linear to elongate triangular, 1-2 mm long, spreading. Staminate flowers with short filaments, anthers subsessile, 0.2 mm long. Pistillate flowers with perianth long persistent; ovary ovoid, < 2 mm long, constricted apically, densely pilose; style attenuate above, stigmas punctuate. Fruits ovoid, 10-12 x 8-9 mm, fleshy, black when mature, glabrous or sparsely pilose. Seed 1, globose, 5-8 mm in diameter, testa irregularly crenate.

GENERAL DISTRIBUTION: From southern Mexico through Central America, the West Indies, and western South America to Bolivia.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Liane-hallier, ti-concombre-hallier, petit concombre hallier.

NOTE: Jeffrey has (pers. comm. 1979) expressed the opinion that *S. dussii* is conspecific with *S. tamnifolium*, and does not warrant even varietal rank.

LOBELIACEAE

LOBELIACEAE R. Br., Trans. Linn. Soc. London, **12:** 133. 1817.

Herbs, rarely shrubs, stems often with milky latex. Leaves alternate, simple, estipulate, entire, toothed or dissected. Inflorescence terminal, racemes or spikes, or flowers solitary in leaf axils; calyx tube adnate to the inferior ovary, limb 5-lobed or 5-parted; corolla gamopetalous, irregular, often bilabiate, tube often open on one side to the base or fenestrate; stamens 5, inserted on the corolla; filaments sometimes united in a tube, anthers united, the lower two or all five often pubescent at apex; ovary 2- to 5-celled, style single, stigma lobes flattened or fringed, ovules numerous. Fruit 1- to 5-celled, capsule or berry; seeds numerous, with smooth or reticulate-foveolate testa.

TYPE: *Lobelia* L.

A family of about 30 genera and 1000 species found on all continents, temperate and tropical. The family is sometimes treated as a subfamily of the Campanulaceae. For further information see McVaugh, N. Amer. Fl. **32A**, pt. 1. 1-134. 1942.

KEY TO THE GENERA

1. Fruit a berry; flowers red or pink .... *Centropogon*
1. Fruit a capsule, dehiscent; flowers red, blue, yellow, green or white.
    2. Corolla salverform, tube narrowly cylindric, white .... *Hippobroma*
    2. Corolla usually bilabiate, usually cleft at least halfway to base or with basal fenestra, red, yellow-green, or blue .... *Lobelia*

CENTROPOGON Presl.

Centropogon Presl, Prodr. Monog. Lobel. 48. 1836.

Plant herbaceous, latex sap milky. Leaves cauline. Flowers in axils of upper leaves or reduced bracts; corolla tube straight or curved, usually constricted above the base, distal part often inflated, red; filaments distinct at base but adherent to corolla above, anther tube partially closed by incurved tips of longer anthers, shorter anthers with white tuft of white stiff hairs, or these concrescent. Style persistent. Fruit globose, fleshy, indehiscent; seeds lenticular, minutely foveolate-reticulate.

TYPE: *Lobelia surinamensis* L. = *Centropogon cornutus* (L.) Druce.

A genus of 250 species of tropical America.

KEY TO THE SPECIES

Corolla tube straight, 18-20 mm long, two shorter anthers with distinct white hairs; calyx lobes to 0.5 cm; staminal column included or only barely exserted .... *C. berterianus*

Corolla tube curved, 35-40 mm long, two shorter anthers with triangular scale of concrescent hairs; calyx lobes to 1.2 cm; staminal column exserted 1 cm .... *C. cornutus*

Centropogon berterianus (Spreng.) A. DC., *in* DC. Prodr. **7:** 345. 1839. FIGURE 223.

Basionym: *Lobelia berteriana* Spreng., Syst. **1:** 712. 1825.
Type: Guadeloupe, *Bertero.*

Herb, to 60 cm high. Leaves with petioles 1-3 cm long; blades ovate, to subcordate, 4.5-9 × 2-4.5 cm, base rounded to subcordate, apex attenuate, margins serrate or crenate. Inflorescence of widely separated flowers, flowers axillary, solitary pedicels 20-53 mm long, calyx lobes narrowly triangular or subulate, 2-5 mm long, acute to acuminate, obscurely toothed; corolla 2.5-3.5 cm long, tube 18-20 mm, straight, lobes linear, 5-6 × 1-2 mm, acute; anthers glabrous or with few stiff hairs, two short anthers densely white-tufted. Berry subglobose, 5-7 mm in diameter, seeds oblong.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, St. Lucia!.

COMMON NAME: Liane rouge.

Centropogon cornutus (L.) Druce, Rep. Bot. Exch. Club **3:** 416. 1914.

Basionym: *Lobelia cornuta* L., Sp. Pl. **2:** 930. 1753.
Type: Cayenne, *Royen*, n.v.
Syn.: *Lobelia surinamensis* L., Sp. Pl. ed. 2, 1320. 1763. (Type: Surinam, no collector cited.)
Lobelia obscura L., Pl. Surin. 14. 1775. (Type: Not stated.)
Lobelia laevigata L. f., Suppl. Pl. 392. 1781. (Type: Surinam, *Dalberg.*)

Herbs, to 2.5 m tall. Leaves with petioles 0.7-2 cm long; blades ovate, oblong, lanceolate or elliptic, 10-20 × 2.5-6.5 cm, base rounded and abruptly narrowed, apex acute or acuminate, margin obscurely dentate. Flowers few to 20 in upper axils, pedicels weak, 45-70 mm long, bracts linear, filiform, 2-10 mm long; calyx lobes lanceolate to linear, 1.2 cm long, subulate, toothed and bristly; corolla tube abruptly bent near middle, 35-40 mm long, red or

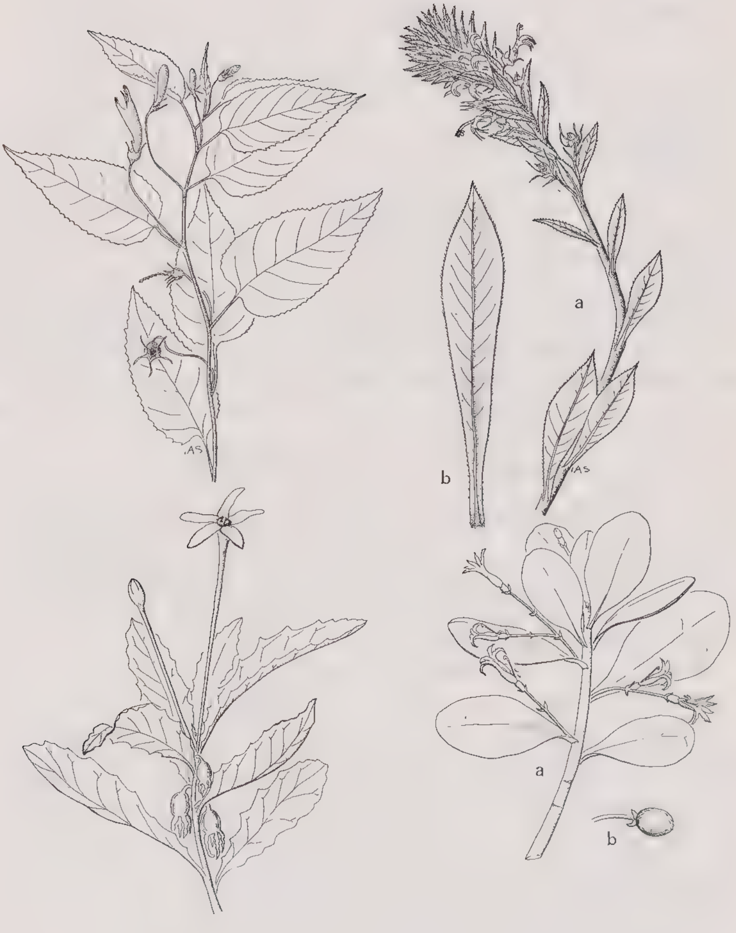


Figure 223 (upper left). *Centropogon berterianum*: × 0.3. Figure 224 (upper right). *Lobelia stricta*: a, upper portion of inflorescence, × 0.3; b, basal or rosette leaf, × 0.3. Figure 225 (lower left). *Hippobroma longiflora*: × 0.3. Figure 226 (lower right) *Scaevola plumieri*: a, flowering shoot, × 0.3; b, fruit, × 0.3.

pink, glabrous or with whitish hairs on veins, lobes falcate, deltoid, 7-9 × 3-5 mm; staminal column exserted to 1 cm, anthers hirsute, hairs on shorter stamens concrescent into triangular scale about 3 mm long. Fruit depressed berry, 10-12 mm in diameter; seeds circular in outline, flattened, foveolate-reticulate.

GENERAL DISTRIBUTION: Mexico, Central America, Trinidad, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Martinique!, Grenada!.

COMMON NAME: Bois poison.

HIPPOBROMA Don

Hippobroma G. Don, Gen. Hist. **3:** 698, 717. 1834.

Herbaceous annual or perennial herbs. Leaves lanceolate, incised. Flowers axillary, corolla salverform, tube elongated, not split dorsally, lobes subequal, white; filaments connate except near the base, adnate to corolla tube; anthers connate, orifice open, all with white hairs; hypanthium with free ring. Fruit a capsule, apically dehiscent, corolla and style persistent in fruit; seeds minute, numerous, foveolate-reticulate.

TYPE: *Lobelia longiflora* L. = *Hippobroma longiflora* (L.) Don.

A monotypic genus of tropical America now naturalized in the Old World tropics. The genus *Hippobroma*, accepted here, was used by McVaugh (Bull. Torrey Bot. Club **67:** 778-798. 1940), Adams (Fl. Pl. Jamaica 1972), Wilbur (Fl. Panama 1976) and S. Jeppesen (Fl. Ecuador 1981). The single species has been placed in *Isotoma* by Britton & Wilson (Bot. Porto Rico 1925), Fawcette & Rendle (Fl. Jamaica 1936), and Lanjouw (Fl. Suriname 1940). McVaugh considered *Isotoma* (R. Brown ex J. Lindley, Bot. Reg. *t. 694.* 1826) as a synonym of *Lobelia.* Melville (Kew Bull. **14:** 277. 1960) suggested the genus *Isotoma* be reestablished for some Australian species, one of which was the type of the name created by Lindley. Mabberley (The Plant Book 296. 1987) equates, without explanation, *Isotoma* Lindley (1826) and *Laurentia* Adans. (1763) to the later *Solenopsis* C. Presl (1836), which he states is a genus of western North America, the Mediterranean and South Africa. American workers accept *Porterella* Torrey for the one or two species of western North America, and European and South African botanists seem to accept *Laurentia.* Grisebach (Fl. Brit. W. Indian Is. 388. 1861) misspelled the name *Iosotoma.* Wimmer (Pflanzenreich IV, **276b:** 405. 1953) accepted the species in *Laurentia* (Adans. Fam. **2:** 137. 1763), a genus McVaugh considered part of *Lobelia.* Alain (Flora de Cuba, 1962) followed Wimmer.

Hippobroma longiflora (L.) G. Don, Gen. Hist. **3:** 717. 1834.
FIGURE 225.

Basionym: *Lobelia longiflora* L., Sp. Pl. **2:** 930. 1753.
Type: LINN 1051.16.; or Jamaica, Sloane *t. 101, f. 2,* typotype Sloane Herb. **3:** 23.
Syn.: *Rapuntium longiflorum* (L.) Miller, Gard. Dict. ed. 8. #7. 1768.
Isotoma longiflora (L.) Presl, Prodr. Monogr. Lobel. 42. 1836.
Laurentia longiflora (L.) Endl., Gen. Pl. 512. 1838.
Isotoma longiflora Griseb., Fl. Brit. W. Indian Is. 388. 1861.

Herb 15-50 cm tall, with acrid milky latex. Stem leaves few to 25, elliptic to oblanceolate, 2.5-12 × 1.5-6 cm, base abruptly narrowed or subdecurrent, apex abruptly narrowed to obtuse or subacute and with mucronulate tip, margins repand-dentate or minutely callose-denticulate. Flowers solitary in axils of upper leaves, pedicels 7-15 mm long; calyx lobes narrowly linear, 10-22 × 1 mm, callose-denticulate and ciliate; corolla tube 80-160 mm long, lobes subequal, spreading, 13-27 × 3-10 mm; stamens included or exserted, anthers white bearded, two shorter ones hirsute. Hypanthium turbinate to ellipsoid-campanulate, capsule mostly inferior, 7-9 mm in diameter; seeds ellipsoid or cylindric, < 1 mm, foveolate-reticulate, brown.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico, Central America, South America, introduced into Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, Grenada!, Barbados!.

COMMON NAMES: Star of Bethlehem, pipe-shank, pipe-zombi, herbe-poison, mort aux cabrits.

NOTES: The white latex of this plant is caustic and will burn the skin. It is reported to be very toxic to man and animals.

LOBELIA L.

Lobelia L., Sp. Pl. **2:** 929. 1753.

Annual or perennial herbs or shrubs. Leaves often clustered at apex of stem, variously serrate, toothed, incised or subentire, margins with callose protuberances. Inflorescence terminal, mostly racemose, bracts and often bracteoles present, pedicels usually divergent, incurved in fruit; flowers inverted in anthesis; hypanthium usually subhemispheric, angled, calyx lobes 5; corolla with dorsal fissure from apex of tube to near the base, or fenestrate; stamens free from corolla tube, filaments free at the base but united above into a tube, glabrous or pilose, anthers fused, orifice partly closed by incurved tips of longer anthers, all anthers penicillate or only the two short anthers penicillate at apex, thecae usually blue-black. Capsule dehiscent by apical valves; corolla, stamens and style persistent; seeds numerous, usually ellipsoid, reticulate-foveolate, shiny.

TYPE: *Lobélia dortmanna* L.

A diverse genus of nearly 300 species, varying from aquatics to pachycaulous plants of higher elevations in Africa.

KEY TO THE SPECIES

1. Flowers red, yellow, or green, never blue; erect, usually stout herbs; leaves mostly lanceolate, exceeding 10 cm.
    2. Flowers in axils of uppermost leaves; corolla rose or red.
        3. Corolla tube straight or nearly so, fenestrate at base, filament tube 17-21 mm long; fruiting hypanthium 4.5-6 mm wide .... *L. kraussii*
        3. Corolla tube strongly arcuate, not fenestrate, filament tube 23-32 mm long; fruiting hypanthium 7-8 mm wide .... *L. persicifolia*
    2. Flowers in definite inflorescences, the subtending bracts much smaller than cauline leaves; racemes often separated from leafy part by naked peduncle.
        4. Inflorescence congested or subcapitate, shorter than the leaves; foliage leaves clustered at apex of stem; flowers red, all anthers bearded .... *L. conglobata*
        4. Inflorescence racemose, elongated, longer than the leaves.
            5. All five anthers densely white-tufted; pedicels exceeding the subtending bracts.
                6. Leaves crenate-sinuate; corolla pink .... *L. santa-luciae*
                6. Leaves and floral bracts callose-toothed or pectinately spinose.
                    7. Leaves sharply pectinately spinose; floral bracts fused to base of pedicels; calyx lobes linear-setaceous, sparsely spinose .... *L. cirsifolia*
                    7. Leaves and floral bracts callose-toothed; bracts nearly free from pedicel; calyx lobes broadly based, obscurely toothed .... *L. digitalifolia*
            5. Two smaller anthers with tuft of white hairs, others glabrous, pedicels shorter than or barely exceeding the subtending bracts.
                8. Inflorescence peduncle naked, to 30 cm long, upper axis strigose-hirsute, margins serrate with callose protuberances .... *L. brigittalis*
                8. Peduncle bracteate with reduced leaves, margins pectinately spinose .... *L. stricta*
1. Flowers blue or pinkish white; delicate herbs; leaves ovate, < 3 cm long .... *L. cliffortiana*

CULTIVATED TAXA

Lobelia cardinalis L. as represented by *Duss 505* and *1748* was presumably cultivated. The latter collection has been seen with a label stating "Martinique" but annotated to "St. Lucie," or "Roseau." The first number is clearly from Dominica.

Lobelia rotundifolia Juss. Reported by Fournet as cultivated in some gardens. Not documented.

Lobelia brigittalis Krause, Beih. Bot. Centr. **32**(2): 337. 1914.

Type: St. Vincent, *Krause 21832* (holotype, B, destroyed; photo GH).

Herb to 1.5 m tall, glabrous. Petioles to 4 cm long or not distinct from decurrent leaf-base; blades lanceolate-obovate to lanceolate-elliptic, 10-20 × 2.5-4.5 cm, base narrowed, apex acute to acuminate, minutely callose-serrate. Racemes on naked peduncle to 30 cm long, bracts ovate, oblong to oblong-lanceolate, 2-3 × 0.3-1.5 cm, acute, serrate; upper part of rhachises densely to sparsely strigose-hirsute; pedicels 1-1.5 cm long, shorter than the subtending bracts; hypanthium hemispherical, calyx lobes narrow lanceolate, < 8 × 2 mm, acuminate or acute, callose-tipped protuberances; corolla arcuate, < 1.5 cm long, yellow-green, 5-parted, two anthers bearded. Capsule to 8 mm in diameter; seeds ca. 0.5 mm long.

GENERAL DISTRIBUTION: Endemic to St. Vincent above 1000 m.

Lobelia cirsiifolia Lam., Encycl. **3:** 584. 1791; Urban, Repert. Spec. Nov. Regni Veg. **17:** 407. 1921.

Type: St. Vincent, *Surian* Herb. *642* (holotype, P).

Syn.: *Lobelia racemosa* Sims, Bot. Mag. *pl. 2137.* 1820. (Type: ibid. *pl. 2137*, a cultivated plant from St. Kitts.
Tupa racemosa A. DC. *in* DC., Prodr. **7:** 394. 1839.
Tupa cirsiifolia (Lam.) A. DC. ex Griseb. Fl. Brit. W. Indian Is. 387. 1861.
Tupa infesta Griseb., Fl. Brit. W. Indian Is. 387. 1861. (Syntypes: St. Kitts, Grenada, *Elsey.*)
Lobelia heterodonta Sprague, Gard. Chron. III, **36:** 252. 1904. (Type: A cultivated plant grown at Kew from seeds from Grenada (holotype, Hort. Kew 39-03, K).)
Lobelia ryanii Rendle, J. Bot. **73:** 277, *f. 1c, 2a.* 1935. (Type: Montserrat, *Ryan s.n.*, holotype, BM).
Lobelia stricta ssp. *ryanii* (Rendle) Sastre, C. R.,Acad. Sci. Paris, t. 400. Sér. III, **4:** 163. 1985, comb. illegit. as no basionym or reference was cited.

Stems erect, to 1 m tall. Petioles 0.5-1 cm long; blades narrowly lanceolate, 11-20 × 1.5-4.5 cm, base attenuate, apex attenuate, margin spinulose-serrate with sharp, often curved or hooked teeth, the lowest teeth widely separated and to 5 mm long. Inflorescence to 50 cm long, bracts linear, 1.5 × 0.2 cm, spinulose-margined, fused to base of and shorter than the pedicels, pedicels straight, divaricate, 1.2-2.5 cm long, bristly pubescent to glabrate, bracteoles 2, linear, 4 mm long, located below middle of pedicel; calyx lobes linear-setaceous, 10-12 mm long, 1 mm wide at base; corolla tube 14-18 mm long, straight or curved, greenish yellow; upper lobes linear oblong, 7-13 × 1.5-2.5 mm, lower lobes 5-10 mm long, all anthers white-tipped. Fruit 6-9 mm in diameter.

GENERAL DISTRIBUTION: Endemic to the Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Dominica!, St. Lucia!, St. Vincent!, Grenada!.

Lobelia cliffortiana L., Sp. Pl. **2:** 931. 1753.

Type: "Virginia, Canada," LINN 1051.28.

Annual herb, to 75 cm tall. Petioles 0.5-3 cm long, blades ovate and the upper lanceolate or elliptic, 2.5-5 × 2.3-4.5 cm, base cuneate or truncate, apex obtuse or rounded, margin coarsely and irregularly serrate or crenate. Inflorescence to 40 cm long, pedicels slender, 6-23 mm long, spreading and ascending; hypanthium campanulate or conic, calyx lobes linear-lanceolate, < 4 mm long; corolla tube hairy inside, glabrous outside, blue, purplish or pinkish white, 4.5-7 mm long, two smaller anthers with small white tuft at apex, other three sparsely bristly. Fruit ellipsoid, one-half to two-thirds inferior, 4-6 mm long; seeds elliptic, < 0.5 mm, smooth, shining.

General distribution: Eastern North America, weed in tropical areas.

Distribution in Lesser Antilles: St. Lucia!.

Notes: *Lobelia cliffortiana* L. var. *xalapensis* (Kunth) A. Gray, Syn. Fl. 7. 1878 (Basionym: *Lobelia xalapensis* Kunth Nov. Gen. **3:** 315. 1819), is weakly distinguished from the species by the puberulent pedicels and the nearly superior capsule and has been reported as a weed on Martinique and Dominica!.

Lobelia conglobata Lam., Encycl. **3:** 585. 1791.

Type: Martinique, *Surian* Herb. 799, (holotype, P).

Erect herb, to 2 m tall, stems with a brilliant yellow latex. Petioles 4-5 cm long; blades oblanceolate or elliptic, 12-30 × 3-8 cm, base long attenuate, apex narrowed abruptly to short acumen, margin serrate-dentate, the teeth longer near the base of the blade. Inflorescence a congested or subcapitate raceme, < 10 cm long; bracts linear-lanceolate, 2.5-3.5 × 0.2-0.4 cm, pectinately toothed; pedicels spreading, 17-20 mm long, hirsute; hypanthium campanulate, calyx lobes lanceolate-subulate, 10 × 2 mm, sparsely toothed; corolla < 1.5 cm long, glabrous or sparsely pilose at apex, lobes usually adherent but three lower lobes sometimes recurved, rose-red; anthers all densely white-tufted. Capsule depressed-globose, 4 × 6-7 mm; seeds < 1 mm, oblong, foveolate, grayish-brown.

General distribution: Endemic to Martinique.

Common name: Fleur-boule-montagne.

Lobelia digitalifolia (Griseb.) Urb., Symb. Antill. **1:** 455. 1900.

Basionym: *Tupa digitalifolia* Griseb., Fl. Brit. W. Indian Is. 387. 1861.
Type: Dominica, *Imray 102* (holotype, K.)
Syn.: *Lobelia guadeloupensis* Urb., Symb. Antill. **1:** 454. 1900. (Type: Dominica, *Imray s.n.* (holotype B, presumably destroyed but may have been the same as above).)
Lobelia digitalifolia (Griseb.) Urb., var. *guadeloupensis* (Urb.) McV., N. Amer. Fl. **32a:** 90. 1942.

Lobelia digitalifolia ssp. *guadelupensis* (Urban) Sastre, C. R., Acad. Sci. Paris, t. 300, Sér. III, **4:** 163, 1985, comb. illegit. as neither basionym nor reference was cited.

Stem erect, to 2 m tall. Petioles 1-3 cm long; blades narrowly elliptic or oblanceolate, 18-27 × 2.5-4 cm, base acuminate, apex acute, margin shallowly and evenly crenate-dentate, with short, blunt, brown, callose teeth. Inflorescence to 60 cm, lower bracts largest becoming smaller near apex of axis, free from the pedicels and shorter than the pedicels, pedicels widely spreading at right angles but abruptly bent upward, to 5 cm long; hypanthium campanulate, calyx lobes triangular-lanceolate, 12-18 × 2-5 mm acute or blunt, entire or obscurely callose-toothed; corolla to 4.5 cm long, strongly falcate-recurved, usually green to cream but also reported as red-brown, fenestrate at base, upper two lobes linear, recurved, lower three connate half their length; all five anthers with white tufts. Capsule two thirds inferior, 10-12 mm long; seeds ovoid-oblong, brown, minutely reticulate.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Montserrat!, Guadeloupe!, Dominica!.

Common name: Zeb apite.

Lobelia kraussii Graham, Edinb. New Phil. J. **8:** 379. (Apr.) 1830; Bot. Mag. *t. 3012.* (Sept.) 1830.

Type: Dominica, *Krauss 409* (holotype, E).

Stems erect, to 1 m tall, glabrous. Petioles 0.5-1.5 cm long, blades lanceolate to narrowly elliptic, 8-21 × 1.5-3.5 cm, base long-attenuate, apex long-attenuate, margin irregularly sharply serrate or rarely sinuately dentate. Flowers solitary in axils of upper leaves, pedicels 3-6 cm long; hypanthium conic to turbinate, calyx lobes linear-subulate, 7-15 mm long, deltoid base 3 mm wide; corolla tube straight, 20-30 mm long, fenestrate, red, or yellow, glabrous; anthers all densely white tufted. Capsule two thirds inferior, 6-9 mm long; seeds oblong, ca. 0.75 mm long, reticulate-foveolate.

General distribution: Endemic to Lesser Antilles.

Distribution in Lesser Antilles: Dominica!, Martinique.

Lobelia persicifolia Lam., Encycl. **3:** 584. 1791.

Type: Guadeloupe, *Badier s.n.* (P).

Herb, erect stems to 1.5 m tall, glabrous, often roughened or ridged; petioles 1-2.5 cm long, blades lanceolate, 10-24 × 1.2-2.5 cm, base long-tapering, apex long-attenuate, often arcuate, margin irregularly serrate or sinuate-dentate, with callose-tipped teeth. Flowers axillary to uppermost leaves, pedicels slender, upright or spreading, 3-7 cm long; hypanthium conic to turbinate, calyx lobes linear-subulate, 7-15 mm long, often reddish, base deltoid, 3 mm wide; corolla tube 24-30 mm long, strongly arcuate and dilated at base, not fenestrate, upper lobes linear, 7-11 mm long, abruptly narrowed to subulate tip, lower lobes 5-9 mm long; anthers all tufted. Capsule two thirds inferior, 7-10 mm long, seeds ellipsoidal or lenticular, shallowly depressed-reticulate, pale brown.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!.

COMMON NAME: Herbe-poison.

Lobelia santa-luciae Rendle, J. Bot. **75:** 74. 1937.

Type: St. Lucia, *Box 527* (holotype, BM).

Herb, stems erect, height unreported, glabrous. Petioles 0.5 cm long; blades narrowly oblanceolate, 12-20 × 2.2 cm, base narrowed to petiole, apex bluntly acute, margin crenate-sinuate above the middle, often cartilaginous. Inflorescence elongated, exceeding 50 cm, peduncle with linear-lanceolate bracts, bracts subtending, pedicels free, linear, shorter than the pedicels, pedicels diverging and abruptly ascending, 2-2.5 cm long; hypanthium hemispheric, calyx lobes broadly linear, 6 mm long, entire; corolla 25 mm long, falcate about the middle, tube 12 mm, rose, fenestrate, upper lobes linear, acute, lower lobes shorter; anthers all bearded. Capsule 1 cm in diameter; seeds ellipsoid, < 1 mm long, minutely reticulate.

GENERAL DISTRIBUTION: Endemic to St. Lucia.

NOTE: This is known from but two incomplete collections from Morne Gimie, alt. 1000 m on St. Lucia.

Lobelia stricta Sw., Prodr. 117. 1788. FIGURE 224.

Type: Guadeloupe, *Ponthieu s.n.* (holotype, BM).
Syn.: *Lobelia areolata* Rich. ex Juss., Ann. Mus. Paris **18:** 3. 1811. (Type: Guadeloupe, *Richard s.n.*, holotype, JUSS-P.)
  Tupa flavescens A. DC. *in* DC., Prodr. **7:** 395. 1939. (Type: Martinique, *Sieber s.n.*, holotype, W.)
  Lobelia flavescens (A. DC.) Wimmer, Pflanzenr. IV, **276b:** 626. 1957.

Herb, stem erect, strict or much branched if injured, to 4 m tall. Leaves usually crowded near apex of stem, stem rough from persistent corky leaf-bases; petioles > 1 cm; blades narrowly oblanceolate, 7-18 × 2-3.5 cm, base long-attenuate, apex acute to short acuminate, coriaceous, densely and evenly pectinate-spinulose with yellowish spreading teeth, to 5 mm long. Inflorescence erect, 10-35 cm long, peduncle with smaller but leaflike bracts, bracts elliptic to narrowly ovate, 2-4 × 0.6-1 cm; pedicels spreading, 7-15 mm long, often curved so flower is erect, and fruit incurved, shorter than the bracts; hypanthium campanulate, calyx lobes lanceolate to linear, 5-12 × 1.5-3 mm, spinulose-serrate with few teeth; corolla tube 8-12 mm long, strongly falcate-curved, upper two lobes linear, 7-12 mm long, lower lobes 5-9 mm long, greenish yellow; two smaller anthers white-tufted, others glabrous. Capsule half inferior, 5-8 mm in diameter; seeds ellipsoid, reticulate.

GENERAL DISTRIBUTION: Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Nevis!, Guadeloupe!, Dominica!, Martinique!.

NOTES: Sastre (Phytologia **58:** 167, 168. 1985) incorrectly chose a specimen in Stockholm (S) as the lectotype of *Lobelia stricta* Sw. In the original description Swartz marked the text with an * indicating he did not possess a specimen but was studying the material in the Banks Herbarium (BM). Sastre concluded that the two specimens, both attributed to Ponthieu from Guadeloupe, represented different species and were a mixed collection or that the labels had been copied in error. Sastre stated that one was from St. Kitts-Nevis (S) and that the other, from Guadeloupe (BM), represented a species found on "Guadeloupe, Dominica and Martinique." Unfortunately Sastre does not give any characteristics or description to distinguish these entries. For the BM specimen Sastre adopted the name *Lobelia areolata* Richard ex Juss., citing in synonymy *Tupa flavescens* Candolle (*Lobelia flavescens* (DC.) Wimmer) and other names sensu a recent author not the original. The whole is hopelessly confused, and no interpretable conclusion can be reached from Sastre's other papers in C. R. Soc. Biogéogr. **57**(4): 145-149. 1981 or C. R. Acad. Sci. Paris, t. 300, sér. III: **4:** 161-164. 1985. In these he gives characters unassociated with names or names without characters. The problem remains unresolved until the two specimens, BM and S, can be reexamined or Sastre returns long-held loans.

GOODENIACEAE

by George W. Staples

GOODENIACEAE R. Br., Prodr. 573. 1810, nom. cons.

Perennial herbs or small shrubs, lacking latex. Leaves alternate or radical, rarely opposite, simple, exstipulate. Inflorescences cymes, racemes, spikes, or flowers solitary; flowers bisexual, irregular, often protandrous; calyx tubular, fused basally to ovary, free distally, (3-)5-lobed or entire; corolla sympetalous, zygomorphic, uni(-) or bilabiate, tube slit above nearly to base, limb 5-lobed, induplicate or valvate; stamens 5, alternate with corolla lobes, free or the filaments briefly fused to corolla tube base, or the anthers coherent in a ring around the style, anthers dehiscing introrsely, shedding pollen onto the indusium; ovary inferior, rarely superior, bicarpellate, (1-)2-locular; ovules 1 to many, erect or ascending, basal or axile, anatropous; style simple, filiform, stigma usually 2-lobed, surrounded by a cup-shaped outgrowth, the indusium. Fruit a valvular capsule, drupe or nut; seed with a straight embryo and fleshy endosperm.

TYPE: *Goodenia* J. E. Smith.

A distinctive family including 14 genera and about 300 species, principally found in Australia, with a few species extending to East Asia, Africa, the

Pacific islands and the neotropics. A single species of *Scaevola* is widespread in coastal habitats of the Indo-Atlantic region.

SCAEVOLA L.

Scaevola L., Mant. Pl. **2:** 145. 1771, nom. cons.

Stout herbs or diffuse shrubs. Leaves generally alternate, entire, sessile or petiolate, ofen spathulate or obovate, fleshy, glabrous or with stellate or simple hairs; flowers axillary, solitary or in few-flowered bracteate cymes; calyx tubular or annular, entire or 5-lobed; corolla tube split along one side to the base, villous within, limb 5-lobed and strongly unilabiate, variously colored; stamens free; ovary inferior, 2-locular, (1-)2-ovulate; style simple; stigma simple or 2-lobed; indusium finely hairy. Fruit a fleshy drupe with a corky endocarp enclosing 1 or 2 seeds.

TYPE: *Scaevola lobelia* Murray, nom. illegit. for *Lobelia plumierii* L. = *S. plumieri* (L.) Vahl.

A genus of 80-100 species, primarily found in Western Australia, with several species in the Pacific and two of widespread occurrence in coastal habitats around the world. One species is native in the Lesser Antilles and a second is probably cultivated there. Jeffrey (*in* Kew Bull. **34:** 537-545. 1980) has untangled the nomenclature for these two strand species.

Scaevola plumieri (L.) Vahl, Symb. Bot. **2:** 36. 1791. FIGURE 226.

Basionym: *Lobelia plumierii* L., Sp. Pl. **2:** 929. 1753, p.p.
Type: Catesby, Nat. Hist. Carol. Fl. Bah. *t. 79.* 1731, chosen lectotype by Davies in Fl. Trop. E. Africa 3. 1978.

Suffrutescent, much-branched, diffuse shrub to 1 m tall, the lower branches often drooping, the leaves clustered at the branch tips. Lower stems woody, rough, 8-14 mm in diameter, grayish, becoming hollow with age; upper stems and branches fleshy, terete, ringed at nodes by prominent leaf scars, 6-10 mm in diameter, glabrous, pith spongy. Leaf axils glabrous or sparsely sericeous with simple, white hairs. Leaves sessile, obovate, elliptic or oblanceolate, 5-8.1 × 2-4.5 cm, base cuneate, half clasping the stem, margins entire, apex rounded or obtuse, fleshy, flat, yellowish-green in life, glabrous, smooth. Cymes axillary; peduncles flattened, faintly striate when dry, 2.4-3.5 cm long, lengthening to 5 cm in fruit; bracts 2, triangular to lanceolate, 3-5 mm long, persistent, with white sericeous hairs in axils, or glabrous, secondary peduncles 1-1.4 cm long; flowers epedicellate, odorless; calyx annular, entire or barely 5-lobed, ca. 1 mm long; corolla 5-lobed, 16-20(-24) mm long, the tube yellowish-white outside and in throat, the lobes lanceolate to narrowly oblong, white with dull purple border, firm-textured with membranous margins; filaments simple, flattened, glabrous, anthers 3-4 mm long; ovary with only 1 ovule developing, style greenish, ca. 15 mm long, recoiled and protruding through the slit in corolla tube at maturity. Drupe blue-black, broadly ovoid to subglobular, 1-1.5 cm long, juicy; seed one, retained inside the endocarp.

General distribution: The east and west coasts of tropical Africa, Ceylon, islands of the Indian Ocean, and tropical America from Florida southward to Brazil.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Barbuda!, St. Kitts!, Antigua!, Guadeloupe, La Désirade!.

Common names: Gull feed, cerise bord de mer, prune bord de mer.

Notes: A common beach plant on many shores, and increasingly cultivated as an ornamental for its salt tolerance and attractive appearance.

Cultivated Taxa

Scaevola sericea Vahl was cultivated in the St. Pierre Botanic Garden on Martinique according to *Duss 1750* as *S. koenigii* (1897). While no recent records are available, it is likely that this plant is currently cultivated on the islands of the Lesser Antilles due to its popularity in the horticultural trade. It may be distinguished from *S. plumieri* by its 5 well-marked calyx lobes, axillary tufts of sericeous white hairs, and white drupes. This Indo-Pacific strand species has been cited under a variety of names in the botanical and horticultural literature. Jeffrey has recently considered the nomenclatural problems and concluded that *Scaevola sericea* Vahl is the correct name for this plant. This necessitates replacing names familiar in much of the literature. Hortus Third (1976), for example, uses the name *Scaevola frutescens* (Mill.) Kurt Krause for this plant. According to Jeffrey, Miller's epithet is a superfluous name for *S. plumieri*. Fosberg and Sachet (Flora of Micronesia **4:** 7. 1980) retain the widely known name *S. taccada* (Gaert.) Roxb. (1824) for the Pacific species. Jeffrey interprets this combination as a later homonym of *S. taccada* Roxb. (1814), a nomen nudum. Roxburgh's name also must be rejected for a variety of typification problems.

COMPOSITAE

COMPOSITAE Giseke, Prael. Ord. Nat. Pl. 538. 1792.

Annual or perennial herbs, shrubs, small trees or lianas. Leaves opposite or alternate, simple or pinnately compound, entire, toothed, lobed or dissected, glabrous or pubescent, sometimes with glandular hairs, punctate glandular or resinous. Inflorescences axillary or terminal, the flowers aggregated in heads and these solitary and peduncled or in glomerules, cymes, corymbs or panicles. Flowers perfect or unisexual, small, sessile or short-stalked on a common glabrous, pubescent, scaly or foveolate receptacle, subtended or enclosed in a bract (pale), the group surrounded by an involucre of few or many bracts in one or more series; calyx represented by scales or bristles or wanting, corollas gamopetalous, regular and lobed or ligulate and with 3-5 teeth; stamens alternate with corolla lobes, epipetalous, anthers united and surrounding the style, introrsely dehiscent, apices rounded, acute or with an appendage, bases rounded, sagittate, or acute; ovary inferior, 2-carpellate, unilocular with 1 ovule, style 2-cleft, stigmata areas various; fruit usually an achene variously ridged, winged or ornamented, or fleshy and drupaceous; with apical pappus a ring, or of scales, awns or bristles.

TYPE: *Aster* L.

A large family of 1300 genera and over 20,000 species cosmopolitan in distribution and in a variety of habitats, many weedy.

KEY TO THE GENERA

1. Leaves dissected or deeply pinnately lobed or compound.
  2. Heads unisexual, racemose, the upper staminate heads numerous, pistillate heads basal, 1-flowered, pappus 0 .... *Ambrosia*
  2. Heads bisexual, solitary or in inflorescences, mostly radiate.
    3. Heads small, numerous; inflorescence paniculate or corymbose; pales present, only marginal flowers fertile; achenes with 2 broad scales; flowers white .... *Parthenium*
    3. Heads few or solitary, pedicellate; pales wanting.
      4. Involucral bracts connate to above the middle; foliage with oil glands; flowers red or orange; squamellae united, unequal, 1 awnlike .... *Tagetes*
      4. Involucral bracts free to the base; leaves without oil glands.
        5. Achenes with unbranched barbed or aristate setae.
          6. Achenes beaked, to 3 cm long; leaves dissected; ray flowers white, pink, red or orange .... *Cosmos*
          6. Achenes not beaked; leaves trifoliate or pinnately divided, some simple; ray florets smaller, white or yellow .... *Bidens*
        5. Achenes with pappus or squamellae.
          7. Florets orange; pappus of numerous squamellae each divided into 3 awns.................................... *Thymophylla*
          7. Florets lavender-pink; pappus of plumose capillary bristles three times as long as the achene.................... *Erechtites*
1. Leaves simple, entire, or variously toothed or coarsely lobed.
  8. Leaves opposite.
    9. Heads aggregate or aggregated and in corymbs or panicles.
      10. Vines; involucral bracts 4, flowers 4; pappus of capillary barbellate bristles .... *Mikania*
      10. Herbs, shrubs or trees; bracts and flowers more than 4.
        11. Flowers yellow, aggregated in axillary subsessile clusters or the inflorescence branches scorpioid.
          12. Inflorescence branches dense scorpioid cymes; achenes narrowly obovoid or clavate, ribbed; pappus wanting........ .... *Flaveria*
          12. Flowers aggregated in a sessile cluster; pappus of 2 kinds, ray achenes flat & setaceously winged, inner angular and awned .... *Synedrella*

11. Flowers blue, rose or white; inflorescence terminal, corymbose.
13. Involucre of graded series, imbricated; pappus of numerous capillary barbellate bristles; herbs, shrubs or small trees . . . . *Eupatorium*
13. Involucre of single series.
14. Herbs; pappus of 5 acute awned scales; pales wanting; flowers blue, receptacle naked . . . . *Ageratum*
14. Shrubs or small trees; pales present, clasping the achene; achenes drupaceous, inner florets staminate; flowers white, rarely pinkish . . . . *Clibadium*
9. Heads solitary, or few, pedicellate.
15. Heads few, in corymbs or panicles.
16. Receptacle naked; achenes with 1-3 curved clavate glands or knobs; trailing plants; heads discoid . . . . *Adenostemma*
16. Receptacle with scales; pappus of numerous, laciniate or ciliate scales; heads radiate; erect branched herbs . . . . *Galinsoga*
15. Heads solitary.
17. Leaves with dark punctate glands, leaf margins near the base with elongate bristles; receptacle naked . . . . *Pectis*
17. Leaves without dark punctations, or marginal bristles.
18. Flowers white.
19. Receptacle columnar, at least in fruit; plants glabrous.
20. Achenes dimorphic, lacking corklike margins; pappus of 1-several unequal bristles or none; involucre of 1-2-series; leaves petiolate . . . . *Acmella*
20. Achenes monomorphic, with corklike margin; pappus of 1 or 2 subequal awns; leaves sessile . . . . *Spilanthes*
19. Receptacle flat, not columnar.
21. Plants soft pilose pubescent.
22. Peduncles 15-25 cm long; leaves dentate; pales present; achenes pilose, pappus bristles plumose capillary . . . . *Tridax*
22. Peduncles 1-2 mm long; leaves entire; involucre tubular, 5-toothed, heads 1-flowered, glomerate; pappus of minute scales forming a lacerate crown . . . . *Lagascea*
21. Plants glabrous, strigose or scabrous, not soft pilose.
23. Pappus of small teeth, 2, short-awns; pales linear, apically barbed; involucre in 2 series, some florets ligulate . . . . *Eclipta*
23. Pappus of bristles, caducous; involucre multiseriate; florets all tubular . . . . *Melanthera*
18. Flowers yellow.
24. Leaves oblanceolate, silky tomentose, apex apiculate; receptacle flat; achene sharply angled, pappus cup-shaped . . . . *Borrichia*
24. Leaves ovate, 3-nerved or triplinerved.
25. Involucre with hooks or spines; pappus wanting . . . . *Acanthospermum*
25. Involucre without hooks or spines.

                    26. Pappus a ciliate cupule; florets discoid; semi-prostrate herbs .... *Eleutheranthera*
                    26. Pappus not a cupule; florets radiate; erect or rarely trailing herbs.
                        27. Achenes fleshy, not beaked, pappus of very short hairs; involucre shorter than the head, phyllaries lanceolate, reflexed .... *Wulffia*
                        27. Achenes not fleshy, beaked, pappus of united squamellae with or without 2 awns; involucre longer than the heads; phyllaries oblanceolate, erect .... *Wedelia*
8. Leaves alternate or basal.
    28. Florets all ligulate; sap usually milky; achenes terete or compressed, narrowed above, not beaked.
        29. Achenes compressed, without a beak, unequally ribbed, pappus dimorphic of long setae and intermixed fine hairs; leaves usually lyrate .... *Sonchus*
        29. Achenes terete, equally ribbed.
            30. Achenes gray, glabrous, muricate on ribs; pappus dimorphic .... *Launaea*
            30. Achenes reddish-brown, verruculose on ribs, pubescent above with ascending hairs, pappus monomorphic, of barbellate bristles.. .... *Youngia*
    28. Florets not ligulate; without milky sap.
        31. Leaves in basal rosette.
            32. Heads spicate; leaves long linear-lanceolate; pappus of barbellate bristles .... *Elephantopus angustifolius*
            32. Heads solitary, long peduncled.
                33. Heads nodding, at least in fruit; leaves white pubescent below, lobed or dentate; achenes fusiform, long-beaked, pappus of numerous soft bristles .... *Chaptalia*
                33. Heads erect; leaves entire concolorous.
                    34. Achenes compressed, truncate at apex, pappus of few to numerous barbellate bristles .... *Erigeron*
                    34. Achenes biconvex, pappus cupular .... *Egletes*
        31. Leaves cauline.
            35. Stems winged.
                36. Heads in congested terminal and axillary spikes; leaves woolly pubescent below; achenes angled and compressed; pappus of barbellate bristles .... *Pterocaulon*
                36. Heads solitary on long peduncles, or in terminal corymbs; leaves mostly glabrous, concolorous.
                    37. Heads solitary; flowers orange; achenes ciliate and pubescent, pappus of awns .... *Verbesina alata*
                    37. Heads in terminal corymbs, flowers white; pappus wanting .... *Epaltes*
            35. Stems not winged.
                38. Heads in sessile axillary clusters.
                    39. Plants monoecious; female heads with hooked spines; leaves broad, lobed .... *Xanthium*
                    39. Heads bisexual, not spiny.

40. Pappus dimorphic, outer of ciliate scales, inner of capillary barbellate bristles .... *Vernonia*

40. Pappus a crown.

41. Leaves whitish below; heads compound, spherical; involucral bracts 2; pappus a short-toothed crown .... *Rolandra*

41. Leaves concolorous; heads not compound, hemispherical; pappus tubular entire .... *Struchium*

38. Heads solitary and pedicellate, or in terminal scorpioid, spicate, corymbose or paniculate inflorescences.

42. Heads solitary and pedunculate.

43. Heads compounded of multiple involucrate units, each peduncled but subtended by 3 broad foliose bracts .... *Elephantopus*

43. Heads not of multiple units.

44. Plants with trailing or wiry stems; ray flowers white or pinkish.

45. Involucre of 2-3 series; leaves broadly spatulate, coarsely dentate; pappus cupular .... *Egletes*

45. Involucre of graduated series; leaves linear to lanceolate, entire; pappus of few to numerous capillary barbellate bristles .... *Erigeron*

44. Plants erect.

46. Involucre of a single series, phyllaries with linear brown glands; leaves entire; heads > 1 cm long, discoid, pappus of numerous barbellate capillary bristles .... *Porophyllum*

46. Involucre of several series, without glands.

47. Flowers discoid, blue-purple, heads subtended by several reduced, serrate leaves; foliage glandular-punctate; achenes prismatic, pappus of capillary bristles, early caducous .... *Centratherum*

47. Flowers radiate, yellow; heads without subtending leaves; peduncles swollen below heads; leaves lobed; pales present; pappus of dimorphic ciliate squamellae, 1 or 2 bearing bristles .... *Tithonia*

42. Heads in terminal scorpioid cymes, spikes, corymbs or panicles.

48. Heads in scorpioid or spicate inflorescences.

49. Heads in scorpioid inflorescences; pappus dimorphic, outer of ciliate scales, inner of capillary barbellate bristles .... *Vernonia*

49. Heads in spicate inflorescences, elongated, composed of 1-4 units each with 2-4 florets; pappus dimorphic, of awned scales and bent or twisted bristles; bracts foliaceous .... *Pseudelephantopus*

48. Heads in corymbs or panicles.

50. Flowers white, pink or rose, rarely orange.

51. Dioecious shrubs; ray florets wanting; leaves 3-nerved, entire; pappus of numerous barbellate capillary bristles ...... *Baccharis*

51. Heads bisexual.

52. Involucre 1-seriate; leaves lyrate to dentate.

53. Involucre subtended by linear bracteoles; outer florets pistillate; apex of achene annulate, pappus 3 times length of achene, of numerous capillary barbellate bristles, often caducous ...... *Erechtites*

53. Involucre without bracteoles, all florets bisexual; achenes rounded not annulate, pappus 2 times length of achene, of numerous capillary barbellate bristles .... *Emilia*

52. Involucre 2-more-seriate; leaves entire.

54. Leaves narrowly oblanceolate, fleshy, often viscid; florets 10-15 .... *Gundlachia*

54. Leaves usually broader, glabrous or pubescent but not fleshy or viscid; florets 50-300.

55. Heads radiate; plants hirsute or pilose; florets white; pappus bristles in 1 series . . *Conyza*

55. Heads discoid; plants woolly arachnoid pubescent; pappus of many capillary bristles.

56. Leaves linear, decurrent on stem, stems and lower leaf surface lanate; heads ca. 5 mm long, phyllaries scarious; flowers white .... *Gnaphalium*

56. Leaves broader, petiolate, stems and lower leaf surface not lanate; heads ca. 1 cm long, phyllaries not scarious; flowers pink . . .. *Pluchea*

50. Flowers yellow to orange.
  57. Arching shrub to vine; leaves callose toothed; involucre in 1 series; achenes terete and ribbed . . . . *Senecio*
  57. Erect herbs or shrubs.
    58. Involucre 1-seriate; leaves entire; achenes fusiform, beaked, flaring into cupshaped apex; pales wanting; heads discoid . . . . *Trixis*
    58. Involucre 2 or more seriate; leaves commonly lobed; pales present.
      59. Heads discoid; achenes terete, narrowed at base, pappus of capillary bristles . . . . *Neurolaena*
      59. Heads radiate; achenes compressed, winged or wingless; pappus of 2 long-awned scales . . . . *Verbesina*

CULTIVATED, OR WEEDY TAXA POORLY DOCUMENTED

Species marked with an * are reported by Fournet (1978) to be under cultivation. No specimens have been seen.

Achillea millefolium L. Represented by a single collection from Guadeloupe, locality unspecified, *Bena 2108* (P).
Anthemis nobilis L. *
Artemisia absinthium L. *
Artemisia verlotorum Lamotte *
Artemisia vulgaris L. *
Aster laevis L. *
Aster novi-belgii L. Represented by old collections from Guadeloupe and Martinique. Probably cultivated.
Aster versicolor Willd. *
Calendula officinalis L. *
Callistephus hortensis Cass. *
Chrysanthemum cineriifolium (Trevir.) Vis. *
Chrysanthemum indicum L. Cultivated on Martinique, *Duss 321, 2823.*
Chrysanthemum leucanthemum L. = *Leucanthemum vulgare* Lam. Reported by Urban (Repert. Sp. Nov. regni veg. **26:** 115. 1929) as cultivated on Guadeloupe.
Chrysanthemum maximum Ramat. *
Chrysanthemum × *morifolium* Ramat. *
Chrysanthemum parthenium (L.) Bernh. *Duss 4215*, naturalized.
Cichorium intybus L. Represented from Martinique by *Belanger 893* and *Duss 2827.*
Cirsium mexicanum DC. Collected by *H. & M. Stehlé 6812* on Martinique.
Coreopsis lanceolata L. *
Coreopsis tinctoria Nutt. *
Cyanthillium chinense (L.) Gleason, Bull. Torr. Bot. Club **40:** 306. 1913 (*Conyza chinensis* Lam. or *Vernonia chinensis* Less. Introduced to Guadeloupe, *Duss 4032* (NY).
Cynara scolymus L. *

Florestina pedata Cass. Collected by Plée at St. Pierre, Martinique, in 1890, probably from the Botanic Garden.
Gaillardia lanceolata Michx. *
Gerbera jamesonii Bolus *
Helenium quadridentatum Hook. *Duss 480* once cultivated on Martinique.
Helianthus annuus L. *
Helianthus cucumerifolius Torr. & Gray *
Helianthus tuberosus L. Once cultivated on Guadeloupe and Martinique, *Duss 366, 1735, 3265.*
Helichrysum bracteatum (Vent.) Willd. *
Pulicaria sp. M. Segretain 1852 (P), Guadeloupe (?) or possibly not West Indian.
Senecio confusus Britten = *Pseudogynoxys chenopodioides* (Kunth) Cabrera. Currently cultivated on several islands.
Senecio vulgaris L. A single collection *Stehlé 6815* (n.v.) reported from Martinique.
Solidago serotina Ait. Reported from Guadeloupe, *Stehlé 2044*, Adansonia **3:** 194. 1963.
Solidago canadensis L. ex Duss = *S. microglossa* DC. reported from Guadeloupe.
Tanecetum vulgare L. *Duss 1432* cultivated at St. Pierre, Martinique, and *Duss 3694* n.v. collected on Guadeloupe.
Taraxacum officinale Wigg. Reported from Guadeloupe (*Duss 2826*) by Stehlé (Adansonia **3:** 197. 1963).
Taraxacum vulgare (Lam.) Schrank. *
Xeranthemum annuum L. *
Zinnia elegans Jacq. Reported from several islands but documented only from botanical gardens on Montserrat, Guadeloupe and Dominica.
Zinnia peruviana (L.) L. Represented by an old collection from Guadeloupe.

ACANTHOSPERMUM Schrank

Acanthospermum Schrank, Pl. Rar. Hort. Monac. fol. 53. 1819.

Annual herbs, pubescent. Leaves opposite, sessile, venation 3-nerved. Heads short-pedunculate, solitary in axils; involucre of 4 to 6 elliptic to ovate, herbaceous, 1-seriate phyllaries; heads radiate, heterogamous, ray flowers 5 to 8, 1-seriate, ligulate, yellow, fertile; disk florets 5 to 30, yellow, sterile; receptacle small, convex, pales membranous, concave, ciliate at apex, enclosing achenes, anthers barely cordate to cordate-sagittate at base, appendage ovate, obtuse, inflexed. Fruit cuneate to oblong-fusiform, weakly compressed, echinate on angles and apex with straight or uncinate prickles; pappus wanting.

TYPE: *Acanthospermum brasilium* Schrank = *A. australe* (Loefl.) Kuntze.

A genus of 6 species of tropical America. For further information see S. F. Blake, Contr. U.S. Natl. Herb. **20:** 383-392. 1921; T. F. Steussy, Rhodora **72:** 106-109. 1972.

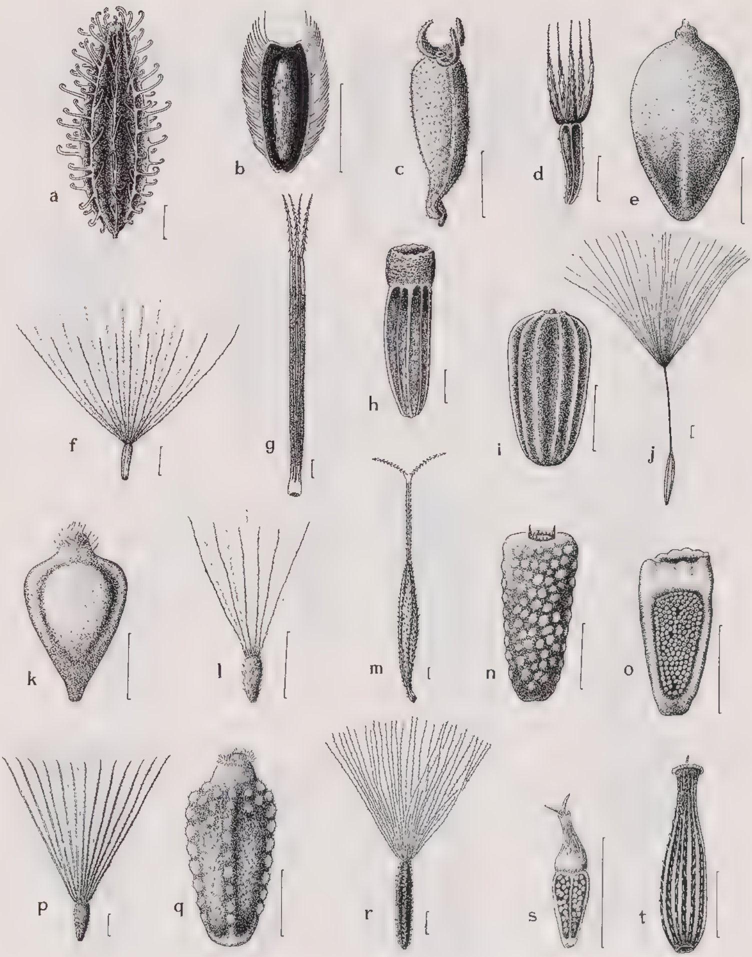


FIGURE 227. Bar represents 1 mm. a, *Acanthospermum australe*; b, *Acmella uliginosa*; c, *Adenostemma verbesina*; d, *Ageratum conyzoides*; e, *Ambrosia hispida*; f, *Baccharis pedunculata*; g, *Bidens cynapiifolia*; h, *Borrichia arborescens*; i, *Centratherum punctatum*; j, *Chaptalia nutans*; k, *Clibadium erosum*; 1, *Conya apurensis*; m, *Cosmos sulphureus*; n, *Eclipta prostrata*; o, *Egletes prostrata*; p, *Elephantopus angustifolius*; q, *Eleutheranthera ruderalis*; r, *Emilia fosbergii*; s. *Epaltes brasiliensis*; t, *Erechtites valerianifolius*, Pappus 3 times length of achene, not shown.

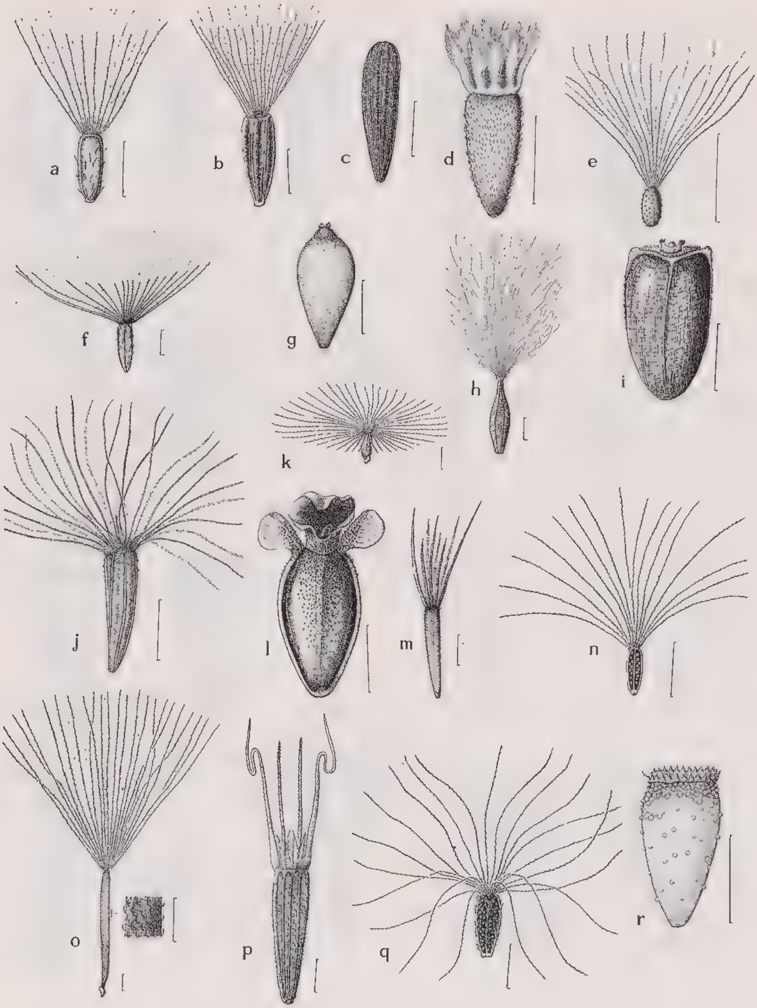


FIGURE 228. Bar represents 1 mm. a, *Erigeron karwinskianus*; b, *Eupatorium celtidifolium*; c, *Flaveria bidentis*; d, *Galinsoga quadriradiata*; e, *Gnaphalium antillanum*; f, *Gundlachia corymbosa*; g, *Lagascea mollis*; h, *Launea intybacea*; i, *Melanthera aspera*; j, *Mikania ovalis*; k, *Neurolaena lobata*; 1, *Parthenium hysterophorus*; m, *Pectis linifolia*; n, *Pluchea odorata*; o, *Porophyllum ruderale*, bar of enlargement = 0.5 mm: p, *Pseudelephantopus spicatus*; q, *Pterocaulon alopecuroides*; r, *Rolandra fruticosa*.

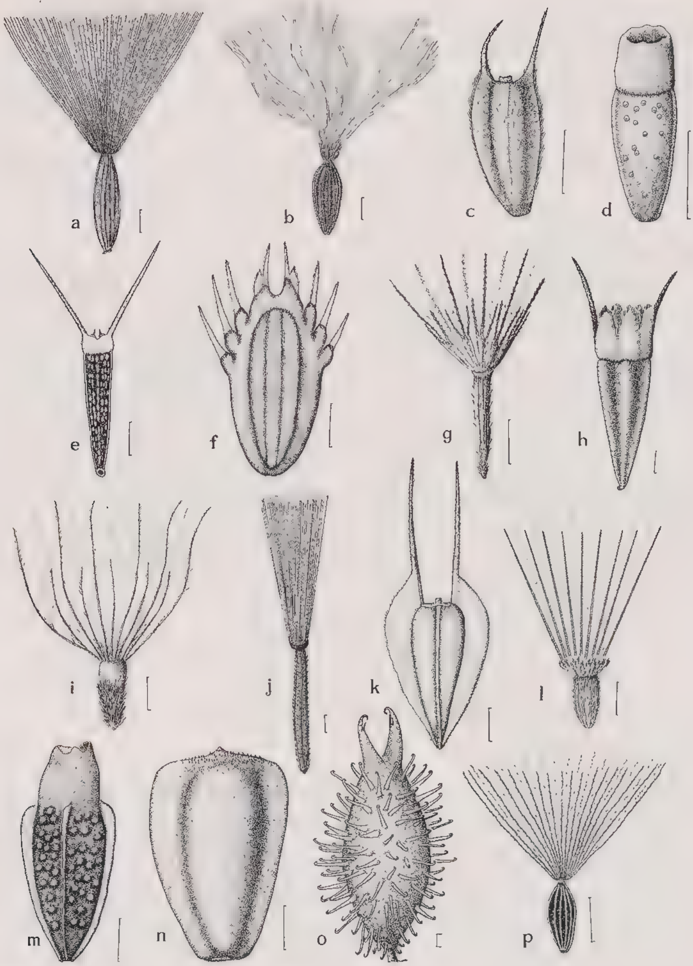


FIGURE 229. Bar represents 1 mm. a, *Senecio lucidus*; b, *Sonchus asper*; c, *Spilanthes urens*; d, *Struchium sparganophorum*; e, *Synedrella nodiflora*, achene of disk floret; f. *Synedrella nodiflora*, achene of ray floret; g, *Thymophylla tenuiloba*; h, *Tithonia diversifolia*; i, *Tridax procumbens*; j, *Trixis inula*; k, *Verbesina gigantea*; l, *Vernonia arborescens*; m, *Wedelia trilobata*; n, *Wulffia baccata*; o, *Xanthium strumarium*; p, *Youngia japonica*.

KEY TO THE SPECIES

1. Fruit strongly compressed, cuneate in outline, obscurely ribbed, two terminal prickles larger, one straight, the other hooked; heads sessile, or peduncle short .... *A. hispidum*
1. Fruit oblong-fusiform or oblong-obovate in outline, strongly ribbed, terminal spines wanting; heads on conspicuous peduncles .... *A. australe*

Acanthospermum australe (Loefl.) Kuntze, Revis. Gen. Pl. **1:** 303. 1891.
FIGURES 227a, 230.

Basionym: *Melampodium australe* Loefl., Iter Hisp. 268. 1758.
Type: Venezuela, *Loefling s.n.*
Syn.: *Acanthospermum brasilium* Schrank, Pl. Rar. Hort. Monac. Pl. *fol. 53.* 1819. (Type: ibid, *fol. 53.* Plant grown from Brazilian seed.)
Acanthospermum xanthioides DC., Prodr. **5:** 521. 1836. (Type: None selected.)

Procumbent or creeping herb, stems to 60 cm long, compressed, pubescent. Petiole 3-15 mm long, blades rhombic-ovate to triangular, 1.3-3.7 × 0.7-3.2 cm, base truncate and abruptly narrowed to winged petiole, apex acute or obtuse, triplinerved, margins dentate-serrate, teeth callose, pubescent, with impressed glands. Peduncles 1.5 cm long, heads solitary, outer phyllaries oblong 3-4 mm long, rays 5 to 8, disk flowers 12, yellow. Fruit obscurely ellipsoid-fusiform, slightly compressed, 5- to 7-ribbed, 7-8.5 mm long, glandular, ribs with 1 or 2 rows of ascending uncinate prickles 1-2 mm long.

GENERAL DISTRIBUTION: U.S., South America.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, St. Vincent, Grenada!.

Acanthospermum hispidum DC., Prodr. **5:** 522. 1836.

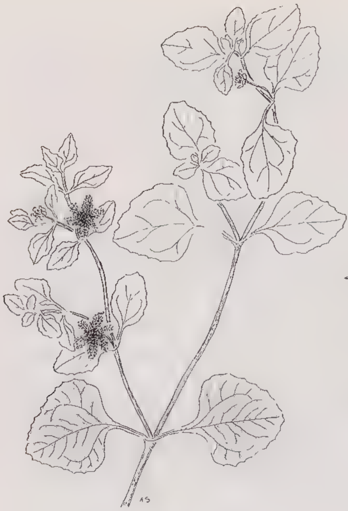
Type: Brazil, *Salzmann s.n.*

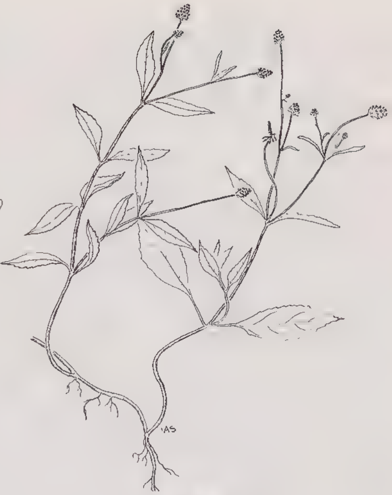
Annual, branched herb, to 60 cm tall, stems round, loosely white hispid-pubescent. Petiole obscure; blades elliptic to ovate or deltoid, 2-6(-12) × 0.8-2(-6) cm, tapering to stem, sessile, coarsely serrate, hispid pubescent both surfaces. Peduncles 3-8 mm long. Heads solitary, axillary, ray florets 6 to 8 enclosed in inner involucral bracts, yellow; disk florets 4 to 6, yellow. Fruit cuneate, strongly compressed, gland-dotted between marginal hooks, with 2 stout spreading spines 3 mm long, 1 straight, 1 hooked; pappus wanting.

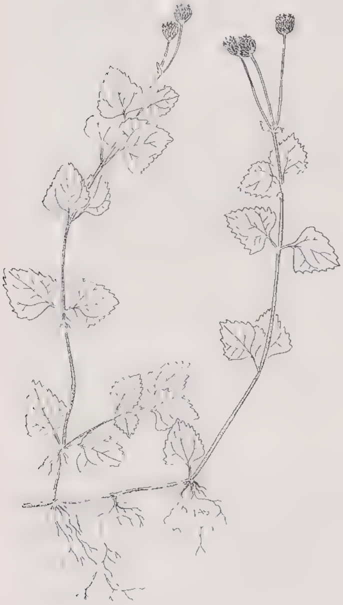
GENERAL DISTRIBUTION: Greater Antilles, Central America, South America, introduced elsewhere, persisting as a weed.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!.

NOTE: *Acanthospermum humile* (Sw.) DC., Prodr. **5:** 522. 1836. Stehlé (Not. Syst. **15:** 76. 1954) reported this species on Martinique (*Duss 290*) and Boldingh reported it from St. Martin, based on his collections *2657B* and *3109B.*







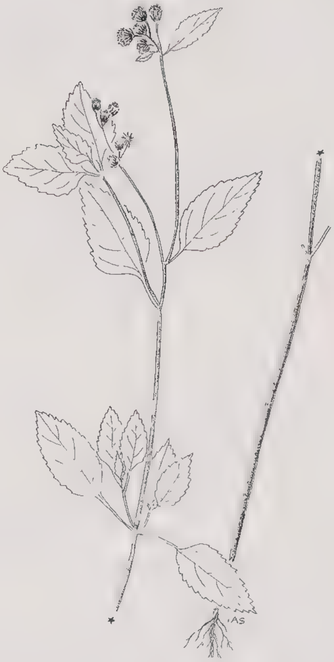


FIGURE 230 (upper left). *Acanthospermum australe*: × 0.3. FIGURE 231 (upper right). *Acmella uliginosa*: × 0.35. FIGURE 232 (lower left). *Adenostemma verbesina*: × 0.35. FIGURE 233 (lower right). *Ageratum conyzoides*: × 0.35.

The former has not been seen, but the latter is more correctly assigned to *A. hispidum*. It has not been recollected more recently.

ACMELLA L. C. Richard

Acmella L. C. Richard *in* Persoon, Syn. Pl. **2:** 472. 1807.

Erect, decumbent annual or perennial herbs. Leaves opposite, basal or on stems, petioles winged or unwinged, blades ovate, obovate, glabrous to pilose, 3-veined from base, margin entire or dentate. Peduncles terminal or axillary, solitary or in groups of 3, heads ovoid, radiate or discoid, phyllaries 4 to 24, 1-, 2-, or 3-seriate, receptacle high-conic, obtuse to acuminate, pales loosely enclosing achenes, ray florets 3 to 22, pistillate, corolla white, yellow or orange, 2- to 3-lobed, tube pilose, ray achenes triangular in section, obovoid or ellipsoid, black, glabrous or pubescent, pappus absent or of soft bristles; disk florets, 23 to 600 perfect, corolla white to orange, regular, glabrous, disk achenes laterally compressed, transversely elliptic, ovoid to ellipsoid, black, glabrous or ciliate; pappus absent or of 1 to 10 soft bristles.

LECTOTYPE: *Acmella oppositifolia* (Lam.) R. K. Jansen.

A genus of 30 species, worldwide in the tropics. For further information see R. K. Jansen, Syst. Bot. Monog. **8:** 1-115. 1985.

KEY TO THE SPECIES

1. Corolla pale yellow to orange.
    2. Heads 5.7-8 mm high, receptacle 3-6 mm high, phyllaries 5 or 6 .... *A. uliginosa*
    2. Heads 8-23 mm high, receptacle 6-21 mm high, phyllaries 8 to 18, in 2 or 3 series .... *A. oleracea*
1. Corollas white to greenish white.
    3. Mature achenes with evident, stramineous corklike margins... *A. radicans*
    3. Mature achenes lacking corklike margins .... *A. iodiscaea*

Acmella iodiscaea (A.H. Moore) Jansen, Syst. Bot. Monogr. **8:** 53. 1985.

Basionym: *Spilanthes iodiscaea* A. H. Moore, Proc. Amer. Acad. Arts **42:** 536. 1907. Type: Puerto Rico, *Sintenis 718* (holotype, GH).

Annual herbs, stems decumbent to erect. Leaves with petioles 1.5-7 mm long, narrowly winged, blades ovate, 4.5-26 × 2.5-12.8 mm, base attenuate, apex acute, margin sinuate to denticulate, glabrous to sparsely pilose. Peduncles 1.3-3.9 cm, heads radiate, 4.4-6.7 mm high, phyllaries 4 or 5, uniseriate, 2-3.1 mm long, receptacle 1.9-5 mm high, acuminate, pales 3-3.6 mm long, ray florets 4 or 5, inconspicuous, corolla 1.1-1.9 mm long, white to pale yellow, achenes 1.3-1.7 mm long, densely ciliate, without corklike margin and shoulders, pappus of 2 or 3 subequal bristles; disk florets 23 to 50, corolla 1.1-1.3 mm long, white to pale yellow, 4- or 5-merous, achenes 1.5-1.7 mm long, densely ciliate, lacking corklike margin; pappus of 2 subequal bristles.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Barbuda (*Keil 16559*).

NOTE: Fournet attributed this species to Martinique, citing Stehlé, but the reference can not be verified.

Acmella oleracea (L.) R. K. Jansen, Syst. Bot. Monogr. **8:** 65. 1985.

Basionym: *Spilanthes oleracea* L., Syst. Nat. **2:** 534. 1767.
Type: LINN (IDC 177. 553. III. 6.).

Known only from cultivation and represented by *Duss 1449* from St. Pierre, Martinique, presumably from the botanical garden, and *Duss 2498* from gardens on Guadeloupe.

Acmella radicans (Jacq.) R.K. Jansen, Syst. Bot. Monogr. **8:** 69. 1985.

Basionym: *Spilanthes radicans* Jacq., Collect. **3:** 229. 1791.
Type: Venezuela. Jansen could not locate authentic specimens and commented that Jacquin's Icon. Pl. Rar. **3:** *t. 584.* 1792 "fixes the application of this name."
Syn.: *Spilanthes exasperatus* Jacq., Icon. *pl. rar.* **3:** 15, *t. 584.* 1792, nom. superfl.
Spilanthes ocymifolia sensu Urban, Repert. Spec. Nov. Regni Veg. **26:** 110. 1929 and Stehlé, Adansonia **2:** 367. 1962, non (Lam.) A. H. Moore.

Annual, stems erect to ascending. Leaves with petioles 4-37 mm, narrowly winged, blades ovate to narrowly ovate, 0.7-7.9 × 0.9-4.7 cm, base attenuate, apex acute, margin denticulate to coarsely dentate with callose teeth, surface glabrous. Peduncles 1.8-6.5 cm, heads 6.2-11 mm high, in groups of 2 or 3 axillary or terminal clusters, phyllaries 6-9, biseriate, receptacle 3.8-7.5 mm high, apex acute, pales 4-5.2 mm long, disk florets 60 to 150, corollas 1.6-2 mm long, greenish-white to white, achenes 2-2.7 mm long, ciliate, often with apical shoulders, pappus of 3 or 2 subequal bristles.

GENERAL DISTRIBUTION: Mexico, Central America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!.

NOTE: Jansen cited this taxon as *A. radicans* var. *debilis* (H.B.K.) Jansen.

Acmella uliginosa (Sw.) Cass., *in* Cuvier, Dict. Sci. Nat. **24:** 331. 1822.
FIGURES 227b, 231.

Basionym: *Spilanthes uliginosa* Sw., Prodr. 110. 1788.
Type: Jamaica, *Swartz s.n.* (holotype, BM).
Syn.: *Coreopsis acmella* var. *uliginosa* (Sw.) Krause, Beih. Bot. Centralbl. **32:** 342. 1914.

Annual herb, usually erect. Leaves with petioles 2-3.5 cm long, narrowly winged; blades lanceolate to narrowly ovate, 1.3-8.5 × 0.3-3 cm, base attenuate, apex acute to acuminate, margin sinuate to dentate, sparsely ciliate, glabrous to sparsely pilose on both surfaces. Heads usually radiate, 5.7-8 mm high, phyllaries 5 or 6, uniseriate, 2-4 mm long, receptacle 3-6 mm high, apex acuminate; pales 2.7-3.6 mm long, ray florets 4 to 7, inconspicuous, corolla

1.8-3.6 mm long, yellow to orange-yellow, achenes 1.2-1.6 mm long, ciliate, without corklike shoulders, pappus of 2 to 4 subequal bristles; disk florets 68 to 148, corolla 1-1.6 mm long, yellow to orange-yellow, achenes 1.2-1.8 mm long, ciliate, pappus of 2 subequal bristles.

GENERAL DISTRIBUTION: A pantropical weed of disturbed areas.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St Lucia!, St. Vincent!, Grenada!.

COMMON NAME: Bouton d'or.

ADENOSTEMMA J. R. Forster & J. G. A. Forster

Adenostemma J. R. & J. G. A. Forst., Char. Gen. 89. 1776.

Herbs, mostly glandular pubescent. Leaves opposite, petiolate, mostly triplinerved. Heads discoid, in few-flowered corymbs or panicles, involucre broadly campanulate or hemispheric, phyllaries imbricated in 2 series; receptacle flat, naked, corolla regularly 5-toothed, white; anthers obtuse at base, not appendaged above; achenes glandular-tuberculate, obtuse, 5-ribbed; pappus of 3 to 5 short, stiff, clavate, glandlike bristles, carpopodium present.

TYPE: *Adenostemma viscosa* Forst.

A genus of 20 species of tropical America and Africa.

Adenostemma verbesina (L.) Sch.-Bip., *in* J. Bot. **1:** 235. 1863.
FIGURES 227c, 232.

Basionym: *Cotula verbesina* L., Syst. ed. 10, 1222. 1759.
Type: Sloane, Voy. Jamaica *t. 155, f. 2.*
Syn.: *Adenostemma swartzii* Cass. *in* Cuvier, Dict. Sci. Nat. **25:** 362, 1822, illegit. nom. nov.

Stems slender, ascending or rooting, to 40 cm long, sparingly pubescent with curved ascending hairs, or glabrate. Petioles 1-4 cm long, blades ovate, rhomboid-ovate or ovate-orbicular, 1-3.5 × 0.7-3 cm, base obtuse, subtruncate and abruptly decurrent on petiole, apex acute or obtuse, margin dentate or subentire. Heads 1 to 4, slender peduncled, involucre bracts 5 mm long, oblanceolate, ciliate; corolla 2 mm long, white. Achenes 2.5-4 mm long, glandular, dark brown; pappus of 3 curved clavate glands; carpopodium pale.

GENERAL DISTRIBUTION: Greater Antilles, South America.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, St. Vincent!.

AGERATUM L.

Ageratum L., Sp. Pl. **2:** 839. 1753.

Herbs or shrubs. Leaves opposite or the upper alternate. Heads in corymbs or loose panicles, homogamous, discoid; involucral bracts linear, in 2 or 3 series; receptacle naked or with caducous scales, corolla regular, 5-fid, bluish purple or white; anthers obtuse at base, connective extended. Achenes prismatic, 5-angled, pappus of short scales, acute or awned, free or united in a cup.

TYPE: *Ageratum conyzoides* L.

A genus of 60 species of tropical America. For further information see M. F. Johnson, Ann. Missouri Bot. Gard. **58:** 6-88. 1971.

Ageratum conyzoides L., Sp. Pl. **2:** 839. 1753. FIGURES 227d, 233.

Type: Johnson reported three specimens in the Linnean herbarium but did not choose a lectotype. An additional specimen in the Clifford herbarium should be considered.

Herb, stems erect, to 1 m tall. Leaves with petioles 1-3.3 cm long, blades ovate in lower leaves, obovate to elliptic-oblong in upper leaves, 3-10 × 1.9-7 cm, base obtuse or cuneate, apex acute, margin crenate, ciliate, 3-nerved, pilose with yellow glands to nearly glabrous both surfaces. Inflorescence of 4 to 18 heads, in terminal cymose clusters, involucre campanulate, phyllaries biseriate, oblong, 3-4.7 mm long, receptacle convex, naked, flowers 50 to 80, corolla tubular to funnelform, 1.5-2.5 mm long, glabrous to sparsely puberulent, tube greenish-white, lobes mauve to violet. Achenes 5-angled, 1.2-2 mm long, scabrous on angles, black, pappus 5 or 6 membranaceous scales, carpopodium brown, truncate or tapering.

GENERAL DISTRIBUTION: Native of tropical America, now worldwide as a weed.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Bouton, petit pain-doux.

NOTES: In a treatment of *Ageratum houstonianum* Miller, Johnson (l.c. 24) cited *Liebman 148* from "Antigua" and also mapped the taxon from Guadeloupe without citation of specimens. The Liebman collection was probably from Colombia. He also cited a collection *Linden 1157* from "Grenada" for *A. houstonianum* Miller forma *isochroum* (Robins.) Johnson which is probably also a "Nova Grenada" or Colombian collection. *Ageratum houstonianum* was reported by Gooding et al. as cultivated in Barbados. No vouchers have been seen.

AMBROSIA L.

Ambrosia L., Sp. Pl. **2:** 987. 1753.

Annual or perennial herbs with opposite or alternate, mostly dissected leaves. Monoecious, staminate heads racemose or spicate and many-flowered and nodding above the pistillate heads. Involucre saucer-shaped, 5- to 12-lobed of united phyllaries, pales of receptacle filiform or with clavate tips; corolla funnelform, puberulent or glabrate, 5-toothed; filaments united, anthers distinct, with cuspidate or acuminate incurved tips. Pistillate heads 1-flowered, erect, the involucre nutlike, obovoid, with a single series of tubercles or short erect spines near apex, beak truncate and 3- or 4-toothed, pistil without corolla.

TYPE: *Ambrosia maritima* L.

A genus of about 35 species, mostly American.

KEY TO THE SPECIES

Plants creeping, leaves canescent, mostly tripinnatifid	*A. hispida*
Plants erect, leaves green, bipinnatifid	*A. peruviana*

Ambrosia hispida Pursh, Fl. Am. Sept. **2:** 743. 1814.

FIGURES 227e, 234.

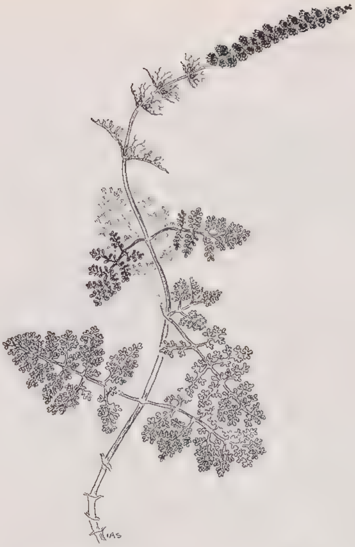
Type: Locality given as South Carolina but probably the Bahamas.

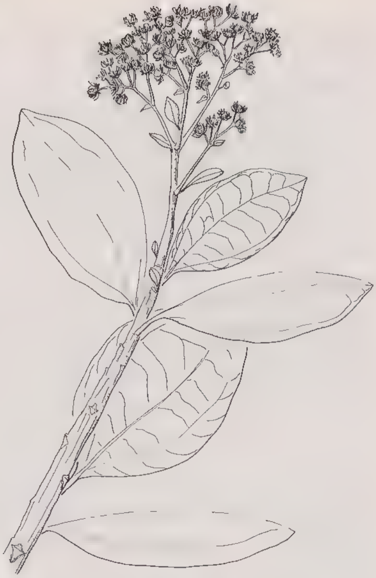
Shrubby perennial, stems prostrate, rooting at nodes, to 80 cm long, white hispid pubescent. Lower leaves tripinnatifid, the upper bipinnatifid, ovate in outline, 5-7 × 3-4 cm, hispid or villose on both surfaces. Staminate heads, in dense terminal racemes, involucre saucer-shaped, 4-5 mm broad, hispidulous, crenate; receptacle flat, pales linear, filiform or clavate, puberulent at tips; flowers many, corolla pilose or puberulent at apex; pistillate heads 1-flowered in clusters in lower axils, fruit involucre obovoid, 3 mm long, obscurely 4-angled, hirsute or glandular, beak conic, 1.5 mm long, spines unequal, 1 to 5, testa black.

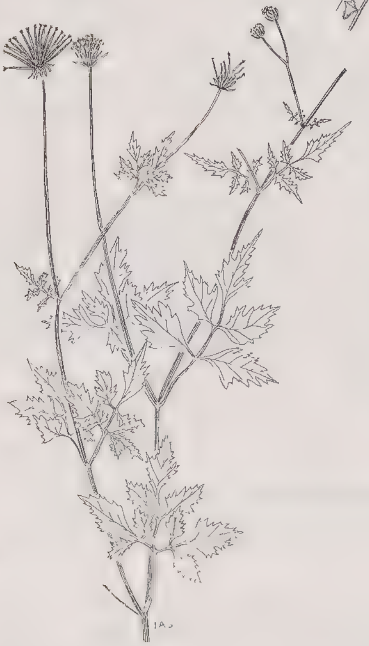
GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

COMMON NAME: Tapis.







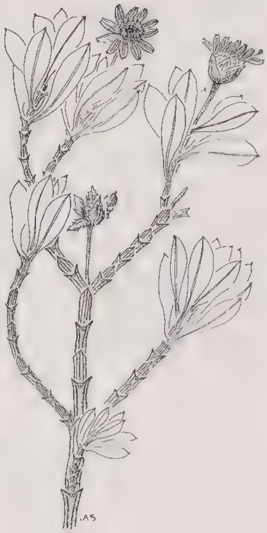


FIGURE 234 (upper left). *Ambrosia hispida*: × 0.35. FIGURE 235 (upper right). *Baccharis pedunculata*: × 0.35. FIGURE 236 (lower left). *Bidens cynapiifolia*: × 0.35. FIGURE 237 (lower right). *Borrichia arborescens*: × 0.35.

Ambrosia peruviana Willd., Sp. Pl. **4:** 377. 1805.

Type: "Peru?"
Syn.: *Ambrosia paniculata* sensu authors, non Michaux.
Ambrosia cumanensis Kunth *in* H.B.K., Nov. Gen. Sp. **4:** 276. 1818 (ed. quarto); **4:** 216. 1818 (ed. folio). (Type: Venezuela, n.v.)
Ambrosia paniculata var. *peruviana* (Willd.) Schulz, *in* Urb. Symb. Antill. **7:** 87. 1911.
Ambrosia paniculata var. *cumanensis* (Kunth) Schulz, *in* Urb. Symb. Antill. **7:** 86. 1911.

Erect perennial, to 2 m tall, hirsute with long spreading hairs. Leaves bipinnatifid, blades triangular-ovate in outline, 6-10 × 4-6 cm, divisions ovate-lanceolate, acute or mucronate. Staminate heads numerous in terminal simple or branched racemes, involucre saucer-shaped or broadly obconic, crenate, 3-4 mm broad, hispidulous; pales of receptacle filiform, corolla puberulent. Pistillate heads in small clusters in lower axils, fruit obovoid, angled, puberulent, beak 0.5 mm long, spines 4 to 7, short, conic.

GENERAL DISTRIBUTION: Greater Antilles, northern South America.

DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Guadeloupe!, Dominica!, Martinique!.

COMMON NAMES: Ambrosie.

BACCHARIS L.

Baccharis L., Sp. Pl. **2:** 860. 1753.

Dioecious shrubs. Leaves alternate. Heads discoid, paniculate or corymbose. Involucre campanulate, phyllaries numerous, imbricated in several series, the outer short; receptacle flat becoming convex, naked, commonly foveolate; corolla of pistillate flowers slender, that of staminate flowers tubular, 5-lobed, anthers obtuse at base. Achenes compressed, or ribbed, pappus of fertile flowers copious, capillary, that of sterile flowers short.

LECTOTYPE: *Baccharis halimifolia* L.

A genus of about 500 species of the New World.

KEY TO THE SPECIES

1. Leaves 1-nerved, obovate, tapered at the base and rounded at apex .... *B. dioica*
1. Leaves 3-nerved or triplinerved.
    2. Leaves ovate-lanceolate, apex long acuminate .... *B. nervosa*
    2. Leaves elliptic or elliptic-oblong, apex subacute and abruptly cuspidate .... *B. pedunculata*

Baccharis dioica Vahl, Symb. **3:** 98, *t. 74.* 1794.

Type: ibid *t. 74.*
Syn.: *Baccharis vahlii* DC., Prodr. **5:** 411. 1836, nom. nov. for *B. dioica.*

Shrub to 2 m tall, stems glandular or resinous. Leaves obovate or cuneate-obovate, 2-4 × 1-2 cm, narrowed at base to a short petiole or subsessile, apex obtuse or subtruncate and mucronulate, 1-nerved. Heads clustered at ends of branches; involucre 4-7 mm high, bracts oblong, imbricated in 4 or 5 series; corolla filiform, 5 mm long, white. Achenes 10-ribbed, glabrous, pappus of pistillate flowers 5 mm long.

GENERAL DISTRIBUTION: Bahamas, Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Montserrat!, La Désirade!.

Baccharis nervosa DC., Prodr. **5:** 399. 1836.

Syntypes: Trinidad, *Sieber 76* and Guadeloupe, *Krauss s.n.*
Syn.: *Eupatorium nervosum* Sieber, Fl. Trin. Exc., non Sw.

Shrub to 4 m tall, stems striate, glabrous; leaves alternate, or petioles 5 mm long, blades ovate-lanceolate to elliptic-lanceolate, 4-10 × 1.5-3.5 cm, base acute, apex acuminate, glabrous, 3-nerved from base. Panicles terminal and lateral or in leafy compound panicle, denser in female than male, staminate heads 20- to 30-flowered, pistillate fewer-flowered, involucral bracts ovate to oblong, inner 4 mm long, membranaceous at margins; corolla white. Achene 1 mm long, pubescent; pappus 3-4 mm long.

GENERAL DISTRIBUTION: South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!.

NOTES: Represented only by *Hahn s.n.* (K) and *Duss 3598* (GH) both of which may represent plants once cultivated.

Baccharis pedunculata (Mill.) Cabrera, Bol. Soc. Arg. Bot. **7:** 240. 1959.
FIGURES 227f, 235.

Basionym: *Conyza pedunculata* Miller, Gard. Dict. ed. 8, *Conyza* 15. 1768.
Type: Miller Herb. (BM).
Syn.: *Eupatorum cotinifolium* Willd., Sp. Pl. **3:** 1769. 1804. (Type: Martinique, *Isert s.n.*).
  Baccharis cinnamomifolia Kunth *in* H.B.K., Nov. Gen. Sp. **4:** 65. 1818, ed. quarto; **4:** 51. 1818, ed. folio. (Type: Ecuador, *Humboldt s.n.* (P).)
  Baccharis speciosa A. DC., *in* Prodr. **5:** 399. 1836. (Type: Guadeloupe, *Perrotet s.n.)*
  Baccharis cotinifolia (Willd.) Urban, Symb. Antill. **3:** 406. 1903.

Erect shrubs or small trees, to 2.5 m tall, stems glabrous but resinous. Leaves on petioles 1-2.5 cm long, blades lanceolate-elliptic or oblong-elliptic, 5-14 × 2-6 cm, base cuneate, apex subacute and abruptly mucronate or cuspidate, triplinerved, margins entire, lustrous above, coriaceous, glandular-punctate. Heads terminal, corymbose-paniculate, slender pedicellate;

involucres hemispheric to broadly campanulate, phyllaries in 5 or 6 series, 4-6 mm long, ovate to lanceolate, tinged with purple, acute, margins erose, ciliate. Corolla pink. Achenes 5-ribbed, 2 mm long, glabrous; pappus copious, uniseriate, 6-8 mm long in pistillate flowers, 4 mm long in staminate flowers with aborted achenes.

GENERAL DISTRIBUTION: Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAME: Bois-guillaume.

BIDENS L.

Bidens L., Sp. Pl. **2:** 831. 1753.

Herbaceous or woody annual or perennial plants, sometimes scandent, glabrous or pubescent. Leaves opposite or ternate, entire, incised, 1-, 2- or more-pinnate compound or dissected. Heads solitary or in corymbose panicles, radiate or discoid, heterogamous, involucre campanulate, phyllaries biseriate, outer often expanded and foliaceous, inner hyaline-margined, receptacle flat or convex, pales narrow, flat; ligulate flowers white or yellow, ligule spreading, 5-dentate; disk florets tubular or cylindric, 5-parted, anthers basally entire or sagittate. Achenes dorsally compressed or 4- or 5-angled, obovate-cuneate to linear, glabrous, or pubescent, apically attenuate and armed with 1 to 5 aristate setae.

TYPE: *Bidens tripartita* L.

A genus of 230 species often with many subspecific taxa recognized. Of cosmopolitan distribution. See: R. Ballard, Amer. J. Bot. **73:** 1452-1465. 1986.

KEY TO THE SPECIES

1. Scandent herbs, ray florets yellow .... *B. reptans*
1. Erect herbs, not climbing.
    2. Leaves bipinnate, achenes 4-armed, rays yellow .... *B. cynapiifolia*
    2. Leaves 1-pinnate, achenes 2- or 3-armed.
        3. Heads radiate, ray-florets sterile, conspicuous, white, achenes 2-awned, inner involucral bracts green .... *B. alba* var. *radiata*
        3. Heads discoid, ray florets absent or fertile and inconspicuous .... *B. pilosa*

Bidens alba (L.) DC., Prodr. **5:** 605. 1836.

Basionym: *Coreopsis alba* L., Sp. Pl. **2:** 908. 1753.

Type: St. Croix (?). Ballard (l.c.) discussed the origin of the type and stated, ''Linnaeus' description and citation of habitat were taken directly from the work of Hermann.'' (Parad. Bot. 124, *pl. 124.* 1698).

Syn.: *Bidens alba* var. *radiata* (C. H. Schulz) Melchert, Phytologia **32:** 295. 1975.
Bidens pilosa forma *radiata* C.H. Schulz *in* Webb & Bertholet, Hist. Nat. Canaries 3(2): 242. 1844. (Type: Canary Islands, *Webb s.n.*)

Erect herb, to 1 m tall. Leaves opposite or upper alternate, simple or usually with 3 leaflets, 6-17 × 6-13 cm, leaflets oblong-lanceolate, base rounded or cuneate, apex acuminate, margins serrate. Heads in cymes, 6 to 18, peduncles 1-4.5 cm long; involucre 2-seriate, outer shorter, margins hyaline, receptacle chaffy; ray-florets 5 or 6, white, showy, limb elliptic-oblong, 6-15 mm long, truncate, sterile; disk florets 30 or more, bisexual, yellow. Achene 2-6 mm long, awns 2, these to 3 mm long, variously barbed or hispid.

GENERAL DISTRIBUTION: Native of the Neotropics now widely distributed as a weed.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, St. Lucia!, St. Vincent!.

COMMON NAME: Spanish needle.

Bidens cynapiifolia Kunth *in* H.B.K., Nov. Gen. Sp. **4:** 235. 1818 ed. quarto; **4:** 185. 1818, ed. folio. FIGURES 227g, 236.

Type: Cuba, *Humboldt s.n.*
Syn.: *Bidens bipinnata* sensu Duss, non L.
Bidens portoricensis Spreng. *in* DC., Prodr. **5:** 601. 1836. (Type: Puerto Rico, *Bertero s.n.*)
Bidens cynapiifolia var. *portoricensis* (Spreng.) Schulz *in* Urb. Symb. Antill. **7:** 131. 1911.

Erect annual, to 1 m tall. Leaves with petioles 1-2 cm, blades pinnate, to bipinnate, 4-9 × 4-9 cm in outline, lobes deltoid-ovate or lanceolate, terminal largest, to 5 cm long, base cuneate, apex caudate-acuminate, margins serrate, ciliate, sparsely pilose. Heads obscurely radiate, 4-6 mm tall, florets ca. 25, peduncles 3-9 cm long; involucres basally white glandular-hispid, outer bracts 7, linear, 4-6 mm long, acute, with hyaline margins; ligulate flowers 4 or 5, pale yellow or whitish, 5-7.5 mm long, ligule oblong-elliptic, entire or incised. Achenes linear, 4-awned, these to 2.5 mm long, sharply retrorsely barbed; marginal achenes shorter, densely hirtellose.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Barbados!.

Bidens pilosa L., Sp. Pl. **2:** 832. 1753.

Type: LINN 975.8 ex Ballard.
Syn.: *Bidens pilosa* L. var. *dubia* Schulz, *in* Urb. Symb. Antill. **7:** 135. 1911. (Type: Not specified.)

Erect annual to 1.5 m tall. Leaves on petioles 1-8 cm long, lower leaves simple, ovate, to 7 × 3 cm; upper leaves 3- to 5-parted, largest 5-20 × 1.5-7 cm, margins serrate. Heads in cymes, discoid, 7-8 mm wide, 25- to 40-flowered, peduncles 1-9 cm long, outer bracts 7 to 9, linear or linear-spatulate, 2-7 mm long, strigose-hispid at base, inner phyllaries lanceolate, 3-5 mm long. Disk florets 35 or more, yellow; achenes linear, straight, compressed, 4-angled or flattish, tuberculate and strigose above the middle, dark brown, awns 3 (only occasionally 2 or 4), long retrorsely barbed.

GENERAL DISTRIBUTION: North America, Greater Antilles, Mexico south through South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Saba!, Antigua, St. Eustatius, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

Bidens reptans (L.) G. Don *in* Sweet, Hort. Brit. ed. 3, 360. 1839.

Basionym: *Coreopsis reptans* L., Syst. Nat. ed. 10, 1228. 1759.
Type: Sloane, Voy. Jamaica **1:** 261, *pl. 154, f. 2, 3.*
Syn.: *Bidens coreopsidis* DC., Prodr. **5:** 599. 1836. (Syntypes cited.)

Woody climbing herbs to 6 m long. Leaves on petioles 1-10 cm long, lowest and upper ones simple, majority 3- to 7-parted, leaflets ovate, oblong-ovate, 2.3-8 × 1-3 cm, base rounded, apex attenuate, or in terminal leaflet narrowly caudate, margins serrate, glabrous to pilose. Peduncles 1-5 cm long, heads radiate, 2-3 cm wide, involucre outer bracts 8 to 11, linear, to narrowly obovate, 4-8 mm long, acute; ray florets 5 to 8, 1.2 cm long, sterile, yellow; disk florets ca. 25, corolla 5-8 mm long, yellow. Achenes flat or slightly compressed, to 4-angled, linear, 6-10 mm long, black, pilose on margins, awns 2, 2.5-4 mm long, retrorsely barbed.

GENERAL DISTRIBUTION: Greater Antilles, Central America, Venezuela, Brazil.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe, Dominica, Martinique!, St. Lucia!, St. Vincent!, Barbados.

BORRICHIA Adans.

Borrichia Adans., Fam. Pl. **2:** 130. 1763.

Shrubs. Leaves opposite, entire or denticulate, fleshy. Heads terminal, large, pedunculate, with ligulate and discoid flowers, involucre hemispheric, phyllaries unequal, imbricated in 2 or 3 series, inner coriaceous; receptacle convex, pales rigid, subtending and enveloping disk florets; ray flowers fertile, disk flowers perfect, corolla tubular, 5-toothed, anthers entire at base or minutely sagittate. Achenes of ray flowers 3-sided, those of disk florets quadrangular, pappus short-dentate cup.

TYPE: *Buphthalmum frutescens* L. = *Borrichia frutescens* (L.) DC.

A genus of 7 species of tropical America.

Borrichia arborescens (L.) DC., Prodr. **5:** 489. 1836. FIGURES 227h, 237.

Basionym: *Buphthalmum arborescens* L., Syst. Nat. ed. 10, 1227. 1759.
Type: Plumier, Pl. Amer. 106, *f. 2.*
Syn.: *Borrichia argentea* DC., Prodr. **5:** 489. 1836. (Syntypes cited.)
Borrichia glabrata Small, Fl. S.E. U.S. 1263, 1340. 1903. (Type: Florida, *Curtis 1412*, holotype, NY.)

Shrub to 1.5 m tall, densely white or silky canescent or green and glabrous. Leaves subsessile, oblanceolate to spatulate 6 × 0.6-1.5 cm, base narrowed and decurrent, apex acute and cuspidate or obtuse, margins entire, fleshy, copiously silvery-pubescent or glabrate, with glandular raised pustules. Heads mostly single, peduncles 2-5 cm long, involucre 1-1.5 cm high, phyllaries obtuse to acute, silky-pubescent, ciliate, becoming woody, receptacle slightly convex, pales rigid, tightly surrounding the achenes, ray florets few, 6-9 mm long, corolla yellow, disk florets yellow-orange. Achenes prismatic, 3- or 4-angled, 3.5-4 mm long, glabrous, black, pappus a dentate cup, $<$ 1 mm long.

GENERAL DISTRIBUTION: Florida, Bahamas, Cuba, Jamaica, Mexico.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts, Barbuda!, Antigua, Saba, St. Eustatius, Guadeloupe!, La Désirade!, Marie Galante!, Dominica, Martinique, St. Lucia, St. Vincent, Barbados.

COMMON NAMES: Seaside tansy, gull feed, fleur-soleil bord de mer.

CENTRATHERUM Cass.

Centratherum Cass., *in* Cuvier, Dict. Sci. Nat. **7:** 383. 1817.

Herbs. Leaves petiolate, serrate. Heads peduncled, terminating the branches, involucre hemispheric or broadly campanulate, bracts in several series, outer foliaceous and spreading, inner erect or appressed, membranaceous or scarious; receptacle convex, corolla deeply 5-cleft, purplish or blue, anthers sagittate, obtuse at base. Achenes ribbed; pappus bristles few to many, short, caducous.

TYPE: *Centratherum punctatum* Cass.

A genus of two species of the American tropics, Australia and the Philippines. For further information see L. K. Kirkman, Rhodora **83:** 1-24. 1981.

Centratherum punctatum Cass. *in* Cuvier, Dict. Sci. Nat. **7:** 384. 1817.
FIGURES 227i, 238.

Neotype: Brazil, *Eiton 4042*, SP, vide Kirkman.

Syn.: *Spixia violacea* Schrank, Pl. Rar. Hort. Monac. *t. 80.* 1819. (Type: ibid. *t. 80.*)
Ampherephis mutica Kunth, H.B.K., Nov. Gen. Sp. **4:** 31, *t. 315.* 1820 ed. quarto; **4:** 25, *t. 315.* 1818, ed. folio. (Lectotype: *Humboldt & Bonpland s.n.* (holotype, P).)
Amphibecis violacea (Schrank) Schrank *in* Hornschuch Syll. pl. nov. **1:** 86. 1824.
Centratherum muticum (Kunth) Lessing, Linnaea **4:** 320. 1829.
Centratherum violaceum (Schrank) Gleason, N. Amer. Fl. **33:** 49. 1922.

Herb, erect or sprawling, pubescent. Leaves alternate, short petiolate to sessile, obovate, 2-7 × 0.8-3 cm, base cuneate to attenuate, apex obtuse, margin serrate, often ciliate, glandular-punctate, often pubescent both surfaces. Inflorescence with heads terminal on lateral branches, occasionally grouped, peduncle 2-7 cm long, involucre campanulate, imbricate in several series, some foliaceous; flowers discoid, corolla tubular, 5-8 mm long, purple. Achenes 8- to 10-ribbed, obconic, 1.6-2.5 mm long; pappus of bristles, 2-2.5 mm long, caducous.

GENERAL DISTRIBUTION: Panama, South America.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Dominica!, Martinique!, St. Lucia.

COMMON NAMES: Marguerite, magéwit.

NOTES: Cultivated but escaping and becoming naturalized. The oldest West Indian specimen was collected by Belanger in 1857 probably from the St. Pierre Botanic Garden on Martinique.

CHAPTALIA VENT.

Chaptalia Vent., Jard. Cels. *pl. 61.* 1800.

Perennial, acaulescent, rosette herbs, floccose-tomentose. Leaves basal, venation pinnate; inflorescence scapose, heads radiate, heterogamous, solitary and terminal; involucre campanulate, phyllaries narrow in few series, inner successively larger; receptacle flat or slightly convex, naked, ray florets pistillate, fertile, white to purple, disk florets tubular, 5-toothed. Achenes 5-nerved, columnar or fusiform, narrowed both ends, long-beaked, pappus of numerous rough or barbellate soft hairlike bristles.

TYPE: *Chaptalia tomentosa* Vent.

A genus of 25 species of tropical America from southern United States to Chile.

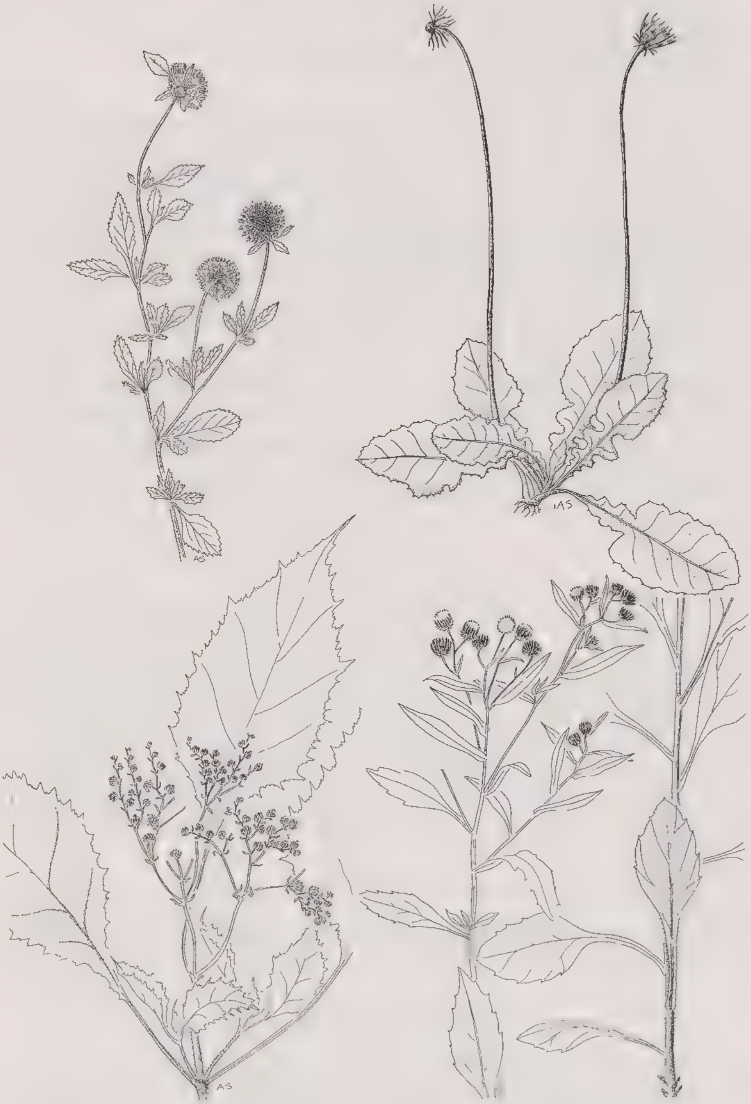


FIGURE 238 (upper left). *Centratherum punctatum*: × 0.3. FIGURE 239 (upper right). *Chaptalia nutans*: × 0.3. FIGURE 240 (lower left). *Clibadium erosum*: × 0.3. FIGURE 241 (lower right). *Conyza apurensis*: × 0.3.

Chaptalia nutans (L.) Polak., Linnaea **41:** 582. 1877. FIGURES 227j, 239.

Basionym: *Tussilago nutans* L., Syst. ed. 10, 1214. 1759.
Type: America, LINN 995.5.
Syn.: *Leria nutans* (L.) DC., Ann. Mus. Paris **19:** 68. 1812.
Lerya sensu Duss p. 375.

Leaves lyrate, 8-30 × 3.5-8 cm, floccose becoming glabrate above, persistently floccose below, terminal lobe large, base lobed and narrowed to broadly margined petiole, apex rounded, subentire. Peduncle 25-45 cm high, heads nodding, involucre bracts 1-1.5 cm long, linear-lanceolate, acuminate, floccose, outer shorter; corolla purple or crimson. Achenes 5 mm long, glabrous or glandular, filiform beak; 10-12 mm long, pappus straw-colored, 10-13 mm long.

GENERAL DISTRIBUTION: Florida, Greater Antilles, through tropical America to Argentina.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Saba, Antigua, St. Eustatius, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Dour blanc, dos blanc, féy do blan.

CLIBADIUM L.

Clibadium L., Mant. **2:** 161, 294. 1771.

Shrubs or small trees, generally rough pubescent. Leaves opposite, entire or toothed. Inflorescence terminal, corymbose or paniculate, heads sessile to shortly peduncled, globose to hemispheric, heterogamous, phyllaries few, ovate, imbricate, receptacle flat, paleaceous throughout or naked in the center, flowers discoid, outer florets in 1 or 2 rows, pistillate, fertile, inner perfect but functionally staminate, corolla regular, anthers entire or minutely 2-toothed at base. Achenes obovoid, flattened, pilose or glabrous at apex, often fleshy; pappus none; achenes of inner floret usually empty, if developed.

TYPE: *Clibadium surinamense* L.

A genus of 30 species of tropical America. Antillean species are known to be toxic to animals and man.

KEY TO THE SPECIES

1. Receptacle naked in the middle; ovary of sterile flowers villose.
   2. Branches and leaves strigose below with appressed hairs, leaves mostly irregularly and remotely serrate; heads short-pedunculate; involucral scales broadly ovate, acute, nervose .... *C. sylvestre*
   2. Branches and leaves more or less hispid below with erect hairs; leaves serrate; heads sessile; involucral bracts suborbicular, obtuse at apex, without conspicuous nerves .... *C. surinamense*

1. Receptacle paleaceous throughout; ovary of sterile flowers sparsely pubescent.
    3. Female flowers and achenes 6 to 12; leaves grossly incised-serrate . . . . *C. erosum*
    3. Female flowers and achenes 20 to 24; leaves unequally incised-dentate . . . . *C. fragiferum*

Clibadium erosum (Sw.) DC., Prodr. **5:** 506. 1836. FIGURES 227k, 240.

Basionym: *Trixis erosa* Sw., Prodr. 115. 1788.
Type: Dominica, St. Kitts. No collector cited.

Shrub or tree to 4 m tall, twigs densely pubescent. Leaves on petioles 3-6 cm long; blades broadly ovate to ovate-oblong, 7.5-25 × 8-10 cm, base narrowed or obtuse, apex acuminate, margin coarsely and finely incised and serrate, larger teeth to 8 mm, triangular, acute, rough-pubescent both surfaces. Corymbs 8-13 cm long, heads subglobose, 5 mm high, nearly sessile, involucre bracts 1 to 4, ovate, acute, ciliate; receptacle scaly, flowers white or purple. Achenes obovate, 2 × 1.5 mm, flattened, pubescent at apex, black, shiny; pappus wanting.

GENERAL DISTRIBUTION: Puerto Rico, Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Saba!, St. Kitts!, Nevis!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAME: Medsinnyé benní.

Clibadium fragiferum Griseb., Fl. Brit. W. Indian Is. 368. 1861.

Type: St. Vincent, *Guilding s.n.*

Shrub to 3 m tall, branches densely hirsute. Leaves on petioles 2.5-8 cm long, blades ovate, 6-16 × 4-12 cm, base cuneate, apex acuminate, margin unequally incised-dentate or serrate, scabrous, hispidulous, hirsute on midrib and petiole. Corymbs terminal, heads subsessile, involucre bracts ovate, pointed, strigose; pistillate flowers to 24, in 4 or 3 series, corolla white; central perfect flowers to 14. Achenes roundish, short pilose at subtruncate summit.

GENERAL DISTRIBUTION: Endemic to St. Vincent.

Clibadium surinamense L., Mant. **2:** 294. 1771.

Type: Surinam, *Allemand s.n.*
Syn.: *Baillieria asperum* Aublet, Hist. Pl. Guiane **2:** 804. 1775. (Type: l.c. *t. 317.*)
Clibadium asperum (Aubl.) DC., Prodr. **5:** 506. 1836.

Shrub or tree to 6 m tall, stems with short subappressed hairs, more or less scabrous. Leaves on petioles 2-5 cm long, hirsute, blades oblong-ovate, 5-17 × 2-8 cm, base rounded, slightly decurrent to petiole, apex acuminate to acute, margin densely serrulate, upper surface scabrous, triplinerved, scabrulous to pilose below. Inflorescence corymbose-paniculate, densely white subtomentose, heads ovate, 5 mm long, more or less sessile, involucre of 3 or 4 bracts, these suborbicular, 4 mm long, acute, short pilose and ciliolate, white or stramineous in fruit; pales with pistillate flowers and achenes, these 4 to 6, perfect flowers 8 to 13, hirsute. Achenes obovoid, 2.5 mm long, black, compressed or subdrupaceous, apex pilose.

GENERAL DISTRIBUTION: Jamaica, Hispaniola, Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Martinique, St. Vincent!, Grenada.

Clibadium sylvestre (Aubl.) Baill., Hist. Pl. **8:** 307. 1886.

Basionym: *Baillieria sylvestris* Aubl., Hist. Pl. Guiane **2:** 807. 1775.
Syn.: *Clibadium vargasii* DC., Prodr. **5:** 506. 1836. (Type: Venezuela, *Vargas s.n.*
Clibadium terebinthinaceum var. *badieri* DC., Prodr. **5:** 506. 1836. (Type: Guadeloupe, *Badier s.n.*)
Clibadium badieri (DC.) Griseb., Fl. Brit. W. Indian Is. 368. 1861.

Shrub to 2 m tall, stems pubescent. Leaves on petioles 1-2.5 cm long, blades ovate, 9-17 × 4-10 cm, base narrowed, apex acuminate, margin irregularly and remotely toothed, more or less pubescent both surfaces. Heads subglobose, 3.5 mm long, short-stalked, bracts broadly ovate with prominent nerves, receptacle scales of pistillate flowers ovate, as long as corolla, pistillate flowers 4 to 6, pink or white; perfect florets 8 to 12, sterile achenes long villose. Achenes obovoid, 2 mm long, slightly hairy at apex, black, glossy.

GENERAL DISTRIBUTION: Trinidad, Venezuela, Guianas, Brazil.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Dominica!, Martinique, St. Vincent!, Grenada!.

COMMON NAMES: Enivre, nivoue.

NOTE: See S. F. Blake, Cont. Gray Herb. **52:** 1-8. 1917, for a discussion of the typification.

CONYZA Lessing

Conyza Less., Syn. Gen. Comp. 203. 1832, nom. cons.

Annual or biennial herbs. Leaves alternate, sometimes aggregated at base, dentate, crenate, dissected or incised. Heads heterogamous, in corymbose or racemose panicles; involucres more or less campanulate, phyllaries 2 to many series, unequal, imbricate, linear or linear-lanceolate, outer shorter, receptacles flat or convex, naked, pistillate flowers numerous, corolla filiform, ligules minute, central disk flowers few, perfect, tubular, limb 5-dentate, anthers obtuse at base. Achenes small, compressed, sides commonly 1-nerved, pappus usually 1-seriate.

TYPE: *Conyza chilensis* Sprengel, typ. cons. (= *Conyza primulaefolia* (Lam.) Cuatrecasas & Lourteig.)

A genus of about 50 species of temperate and tropical areas. For further information see Cronquist, Bull. Torrey Bot. Club. **70:** 629-632. 1943; Cuatrecasas, Phytologia **9:** 1-7. 1963, and Lourteig & Cuatrecasas, Phytologia 58: 475-476. 1985. *Conyza lyrata* Kunth (= *Pseudoconyza lyrata* (Kunth) Cuatr.) was reported from Barbados by Gooding et al. but the report can not be verified.

KEY TO THE SPECIES

1. Heads relatively few in terminal corymbs, inflorescence more or less flat-topped; lower leaves ovate-oblong to elliptic, abruptly narrowed to a winged petiole, involucres 3.5 mm long, receptacle 3-5 mm wide, flowers ca. 200 per head, pappus 2 mm long . . . . *C. apurensis*
1. Heads numerous in narrow elongate panicles, the central axis evident.
    2. Involucre 4-6 mm long, sparsely hispid, receptacle 2-4 mm wide, flowers numerous, to 250 or more, leaves with numerous ascending marginal hairs, surface subscabrid, serrate near apex . . . . *C. bonariensis*
    2. Involucre 3-4 mm long, glabrous, receptacle 1-1.7 mm wide, flowers usually 40 to 60; leaves entire, with few scattered long marginal hairs . . . . *C. canadensis*

Conyza apurensis Kunth *in* H.B.K., Nov. Gen. Sp. **4:** 73. 1818, ed quarto; **4:** 57. 1818, ed folio). FIGURES 2271, 241.

Type: Venezuela, *Humboldt & Bonpland s.n.*

Syn.: *Erigeron spathulatus* Vahl *in* West, Bijdr. Beskr. St. Croix 303. 1793, non *C. spathulata* Hornem. 1807.
Erigeron chinensis Jacq. Pl. Hort. Schoenbr. **3:** 30, *t. 303.* 1798, non *C. chinensis* L. (= *Vernonia patula* (Dry.) Merr.)
Erigeron apurensis (H.B.K.) Griseb., Fl. Brit. W. Indian Is. 365. 1861.
Conyza subspathulata Cronq., Bull. Torr. Bot. Club **70:** 632. 1943, nom. nov. for *E. spathulatus* Vahl.

Erect annual herbs, to 1 m tall, usually hirsute or pilose, rarely glabrate. Lower leaves ovate-oblong to elliptic, 3-10 × 2-4.5 cm, abruptly narrowed to winged petiole, margins coarsely dentate or crenate, middle and upper leaves smaller, upper leaves 2-4 cm long, sessile, oblong, linear-oblong or narrowly elliptic, acute or obtuse, margins entire or dentate. Inflorescence corymbose-paniculate, heads on slender pedicels mostly 1-4 cm long, involucres 3-5 mm high, phyllaries stramineous with green or purple midrib, subequal, acuminate, hispidulous or glabrate; receptacles 3-5 mm wide, pales appressed pubescent or glabrate, pistillate florets 200 to 240, ligules distinct or inconspicuous. Achenes 1 mm long; pappus uniseriate 2 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Saba, St. Kitts!, Montserrat!, Antigua!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Ti bouton, herbe à inde, herbe lapin.

Conyza bonariensis (L.) Cronq., Bull. Torrey Bot. Club **70:** 632. 1943.

Basionym: *Erigeron bonariensis* L., Sp. Pl. **2:** 863. 1753.
Type: Not designated.
Syn.: *Erigeron bonariensis* var. *leiothecus* Blake, Contr. Gray Herb. **52:** 28. 1817. (Type: Guatemala, *Holway 39* (holotype, GH.)
Conyza bonariensis var. *leiotheca* (Blake) Cuatr., Phytol. **9:** 5. 1963.
Leptilon bonariense (L.) Small, Fl. S.E. U.S. 1231, 1340. 1903.

Erect herb to 1.2 m tall, coarsely hirsute. Leaves sessile, the lower narrow-oblanceolate, 7-15 × 1-3 cm, often toothed or pinnatifid, upper entire, gradually reduced to linear-lanceolate blades, pubescent to glabrate; heads numerous, in compound racemiform panicles, pedicels 1-3 cm long, longer than heads, involucre campanulate, 5 mm long, phyllaries narrow, acute, outer shorter, hairy, florets numerous, 250 or more. Achenes 1 mm long, minutely pubescent; pappus 4 mm long, brownish, uniseriate.

GENERAL DISTRIBUTION: Native of tropical America but now a pantropical weed.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAME: Zèbe coq d'Inde.

Conyza canadensis (L.) Cronq., Bull. Torrey Bot. Club **70:** 632. 1943.

Basionym: *Erigeron canadensis* L., Sp. Pl. **2:** 863. 1753.
Type: Syntypes cited.
Syn.: *Erigeron pusillus* Nutt., Gen. Pl. **2:** 148. 1818. (Type: Not indicated.)
Conyza canadensis var. *pusilla* (Nutt.) Cronq., Bull. Torrey Bot. Club **70:** 632. 1943.
Leptilon pusillum (Nutt.) Britton, Torreya **14:** 198. 1912.

Erect annual herb, to 2 m tall, simple below inflorescence, stems pubescent. Lower leaves petiolate, narrowly oblanceolate, 4-6 × 0.2-1 cm, remotely incised-dentate, middle and upper leaves sessile, linear, entire, ciliate. Inflorescence racemose or paniculate, heads numerous, short pedunculate, involucres mostly 2.5-3.5 mm high, phyllaries unequal, linear, acute, glabrous. Receptacle 1-1.7 mm wide, pistillate florets 40 to 50, ligules minute. Achenes 1 mm long, glabrous; pappus uniseriate, 2-2.5 mm long.

GENERAL DISTRIBUTION: Abundant weed in temperate and tropical areas.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts, Antigua, Saba!, St. Eustatius, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COSMOS Cavanilles

Cosmos Cav., Icon. **1:** 9. 1791.

Annual herbs, glabrous to hispid. Leaves opposite, lobed or pinnatisect. Heads long peduncled, solitary or loosely corymbose-paniculate, radiate and heterogamous, involucre subhemispheric, phyllaries in 2 series, connate at base, subequal; receptacle flat, pales flat or concave; ray florets neuter, ligulate; disk florets perfect, regular, tubular, limb short 5-parted, anthers entire at base. Achenes linear or fusiform, tetragonal to alate, attenuate to a beak, beak with ascending stiff hairs, apex armed with 2 to 8 aristae, these commonly retrorsely barbellate or hispid.

TYPE: *Cosmos bipinnatus* Cav.

A genus of ca. 25 species of tropical America, especially abundant in Mexico.

KEY TO THE SPECIES

1. Ray florets orange-yellow .... *C. sulphureus*
1. Ray florets purple, pink to white.
    2. Heads 2-2.5 cm across, rays 1-1.6 cm long; ultimate leaf segments lanceolate to lance-ovate 2-6 mm wide; achenes long-beaked .... *C. caudatus*
    2. Heads 3.5-8 cm across, rays mostly 2-3.5 cm long; ultimate leaf segments elongate linear-filiform, 0.4-1 mm wide; achenes short-beaked, cultivated .... *C. bipinnatus*

Cosmos caudatus Kunth *in* H.B.K., Nov. Gen. Sp. **4:** 240. 1818 (ed. quarto); **4:** 188. 1818 (ed. folio).

Type: Cuba, *Humboldt & Bonpland s.n.* (holotype, P).

Annual herb, to 2 m tall. Leaves petiolate, tripinnatisect, deltoid in outline, 5-15 × 3-10 cm, heads on peduncles 10-30 cm long, 2-2.5 cm wide; outer bracts 8, linear-subulate, 6-10 mm long, ciliate on margins, glabrate; inner bracts broader, ligulate flowers about 8, ligule oblong-oblanceolate, purple or reddish, trilobed with median lobe longer. Achenes 20 to 30, tetragonal, deeply sulcate on each face, black, elongate-rostrate attenuate 1.2-3 cm long, apex 2- or 3- aristate.

GENERAL DISTRIBUTION: Widely dispersed in the American tropics as a weed.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Eustatius, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

Cosmos sulphureus Cav., Icon. **1:** 56. 1791. FIGURES 227m, 242.

Type: Cultivated plant in Madrid grown from Mexican seed. No authentic material known.

Syn.: *Cosmos aurantiacus* Klatt, Leopoldina **25:** 105. 1889. Type: Mexico, *G. Bernoulli 1865.*

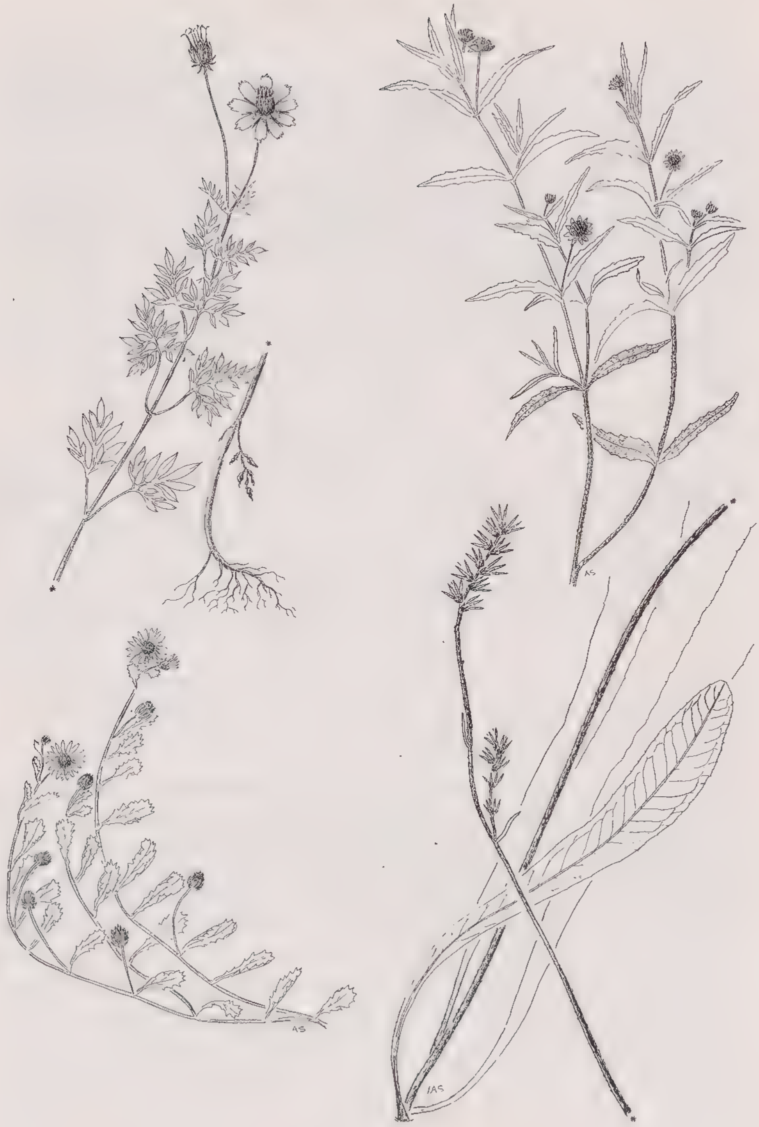


FIGURE 242 (upper left). *Cosmos sulphureus*: × 0.33. FIGURE 243 (upper right). *Eclipta prostrata*: × 0.33. FIGURE 244 (lower left). *Egletes prostrata*: × 0.33. FIGURE 245 (lower right). *Elephantopus angustifolius*: × 0.33.

Annual herb, to 2 m tall. Leaves on petioles 1-7 cm long, bi- or tripinnatisect. Heads on peduncles 10-20 cm long, outer phyllaries 8, linear-subulate, 5-7 mm long, narrowed from base to sharp apex, glabrous, ciliate; ligulate florets 8, 1.8-2.8 cm long, ligule obovate, 1- to 5-denticulate, orange-yellow. Achenes linear-fusiform, obcompressed, 4-sulcate, 1.6-2.8 cm long, 2- or 3-aristate.

GENERAL DISTRIBUTION: Mexico, Central America, but cultivated elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, St. Vincent!.

NOTES: Cultivated and naturalized.

ECLIPTA L.

Eclipta L., Mant. Pl. **2:** 157, 286. 1771, nom. cons.

Annual herbs, usually much-branched, stems commonly prostrate, rough-pubescent. Leaves opposite, sessile or short-petiolate, weakly triplinerved. Heads terminal and axillary, heterogamous, radiate, pedunculate; involucres hemispheric or broadly campanulate, phyllaries imbricate in 2 series, subequal, herbaceous; receptacle flat or convex, pales setaceous, ray florets pistillate, fertile; disk florets perfect, corolla tubular, 3- to 5-dentate. Achenes thick, tuberculate, those of ray florets trigonous, those of disk florets compressed, pappus none, or a few short teeth.

TYPE: *Eclipta erecta* L., nom. illegit. = *E. prostrata* (L.) L.

A genus of 4 species native to the neotropics but introduced elsewhere.

Eclipta prostrata (L.) L., Mant. Pl. **2:** 286. 1771; Koyama & Boufford, Taxon **30:** 504, 505. 1981. FIGURES 227n, 243.

Basionym: *Verbesina prostrata* L., Sp. Pl. **2:** 902. 1753.
Lectotype: Pluk. 118. *f. 5*, topotype Pluk. Herb. BM., vide Wijnands.
Syn.: *Eclipta erecta* L., Mant. Pl. **2:** 286. 1753, nom. illegit. citing *V. alba*.
Verbesina alba L., Sp. Pl. **2:** 902. 1753. (Type: Not determined.)
Eclipta alba (L.) Hassk., Pl. Jav. Rar. 528. 1848.
Eclipta punctata L., Mant. Pl. 286. 1771. (Type: Jacq. Select. Stirp. Amer. Hist. 216, *t. 129*. Dominica & Martinique.)

Herb, stems branched, to 90 cm long. Leaves sessile, lanceolate to narrowly lanceolate, 4-9 × 1-2.5 cm, narrowed at both ends; shallowly crenate or serrate to entire, strigose pubescent on both surfaces. Heads on peduncles 1-3 cm long, solitary, axillary, involucre with outer phyllaries ovate, 4 mm long, acute, strigose and ciliate, ray florets corolla linear, short. Achenes 2 mm long, truncate, narrowed at base, brown, tuberculate.

GENERAL DISTRIBUTION: A nearly cosmopolitan weed in temperate and tropical areas.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Vingt-et-un shillun, kongolala, herbe à l'encre.

EGLETES Cassini

Egletes Cass., Bull. Soc. Philom. 153. 1817.

Annuals, usually viscid pubescent, branched, erect or prostrate. Leaves alternate, sessile or petiolate, dentate, lobed or pinnatifid. Heads heterogamous, radiate, pedunculate, solitary, few or numerous in corymbs. Involucres campanulate, phyllaries in 1 or 3 series, subequal, acute, outer herbaceous, inner membranaceous, receptacle conic, naked; ray florets pistillate, 1- to several-series, ligules white; disk florets perfect, fertile, corolla tubular, yellow, 3- to 5- cleft, anthers obtuse and entire at base. Achenes oblong, slightly compressed, ecostate, constricted at base, at apex with a cartilaginous crown, ring or cupule.

TYPE: *Egletes domingensis* Cass. = *E. prostrata* (Sw.) Ktze.

A genus of 12 species of tropical America. For further information see L. H. Shinners, Lloydia **12:** 239-247. 1950.

KEY TO THE SPECIES

Pubescence cottony or woolly of long slender, curled or tangled hairs of uniform thickness .... *E. prostrata*

Pubescence hispid-hirsute or both hispid-hirsute and glandular-capitate hairs .... *E. conmixta*

Egletes conmixta Shinners, Lloydia **12:** 243. 1950.

Type: Tobago, *Broadway 4149.*

Stems erect or ascending from decumbent base, hispid and puberulent. Basal leaves oval to suborbicular, 4-6(-12) × 3-4.5 cm, abruptly narrowed to winged petiole, coarsely crenate to serrate, stem leaves obovate to spatulate-lyrate, 2-3 × 0.8-1.2 cm, hirsute. Peduncles 3-6 cm long, solitary, opposite leaves, phyllaries lanceolate, subequal, glandular pubescent, ray florets 23-33 in 1 series, ligules 4.5 mm long, disk florets with tubular corolla, 1.6-1.8 mm long, lobes 5. Achenes 1.1-1.3 mm long, compressed or angled, faces glandular, angles pubescent with glandular hairs.

GENERAL DISTRIBUTION: Venezuela.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, St. Lucia!, St. Vincent!.

Egletes prostrata (Sw.) Ktze., Revis. Gen. Pl. **2:** 334. 1891.
FIGURES 227o, 244.

Basionym: *Matricaria prostrata* Sw., Prodr. 114. 1788.
Type: Venezuela, *Rohr s.n.*
Syn.: *Egletes domingensis* Cass., Bull. Soc. Philom. **1817:** 153. 1817. (Type: Santo Domingo, *Poiteau s.n.*)

Perennial, stems prostrate, glabrate or sparsely villose, 2-5 dm long. Leaves obovate or spatulate, 2-7 × 1-2 cm, coarsely dentate above the middle, base cuneate, apex rounded, upper leaves sessile. Peduncles 3-4 cm long, involucre 4 mm high, phyllaries lanceolate, hispid pubescent, rays white 4-5 mm long, disk florets yellow. Achenes obovoid, 1.2-1.5 mm long, compressed or angled, glandular on faces, sparsely pubescent on angles, topped by a cartilaginous ring.

GENERAL DISTRIBUTION: Virgin Islands, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Guadeloupe!, Marie Galante!, Les Saintes!, Dominica!, Martinique!, the Grenadines!, Grenada!, Barbados.

COMMON NAMES: Bouton d'or, herbe-soleil.

ELEPHANTOPUS L.

Elephantopus L., Sp. Pl. **2:** 814. 1753.

Herbs, with stolons or rootstocks, stems leafy or scapiform. Leaves basal or alternate, sessile, simple, entire or toothed. Inflorescence corymbiform or spicate, glomerules of 1 to several heads subtended by 1-3 terminal bracts. Heads 2- to 4-flowered, involucre of 4 decussate pairs of scales, outer pair shorter, alternate pairs conduplicate, receptacle flat, flowers perfect, corolla tube slender, limb unequally 5-cleft, anthers sagittate, obtuse. Achenes truncate, 10-ribbed, pappus of 4 to 15 or 20 to 40 flattened scales prolonged into terminal bristles.

TYPE: *Elephantopus scaber* L.

A genus of 30 species of tropical areas. For further information see Clonts and McDaniel, N. Amer. Fl. n.s. 2, **10:** 196-202. 1978 where *Pseudelephantopus* is assigned to the synonymy of *Elephantopus* without discussion. The two genera are distinguished here, following a more general practice in other regional floras.

KEY TO THE SPECIES

Glomerules stalked in lax corymbs, subtended by ovate bracts; pappus bristle about 5 . . . . *E. mollis*
Glomerules sessile, in spikes, bracts inconspicuous; pappus bristles about 30 . . . . *E. angustifolius*

Elephantopus angustifolius Sw., Prodr. 115. 1788. FIGURES 227p, 245.

Type: Jamaica, Sloane Hist. Jam. 1, *t. 148, f. 1.*
Syn.: *Orthopappus angustifolius* (Sw.) Gleason, Bull. N.Y. Bot. Gard. **4:** 238. 1906.

Erect plants from stout rootstock, to 1 m tall, strigose. Basal leaves cauline and basal, short petiolate, blades narrowly oblanceolate, 10-25 × 1.5-4 cm, base long attenuate, apex obtuse or acute, margins shallowly and irregularly crenate, strigose both surfaces, cauline leaves linear to oblong. Inflorescence spicate with few branches, each head 4-flowered, involucres 1 cm long, phyllaries 8 in 2 decussate pairs, acuminate, 7-11 mm long, glabrous or strigose, membranous along margins, corolla white, 6-8 mm long. Achenes 2 mm long, brown, pubescent; pappus of 20 to 30, 1-seriate uniform bristles, 7-8 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, south to Argentina and Chile.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Les Saintes!, Martinique!, St. Vincent!.

COMMON NAME: Langue à boeuf femelle.

Elephantopus mollis H.B.K. Nov. Gen. Sp. **4:** 26. 1818 (ed folio); **4:** 20. 1818 (ed quarto).

Type: Venezuela, *Humboldt & Bonpland 627* (P).
Syn.: *Elephantopus mollis* var. *bracteosus* Domin, Àcta Bot. Bohemica **9:** 672. 1930. (Type: Dominica, *Domin 1926.*)
Elephantopus mollis var. capitulatus Domin, Acta Bot. Bohemica **9:** 62. 1930. (Type: Dominica, *Imray 370.*)
Elephantopus pilosus Philipson, Jour. Bot. **77:** 314. 1939. (Type: Dutch Guiana, *Hostmann 875* (holotype, BM).)

Plant erect, to 2 m tall, pilose to hispid. Cauline leaves or basal ovate or obovate, 6.5-25 × 5.5-10 cm, base long or short acuminate, apex acute to short acuminate, crenate to serrate, pilose to glabrate above, soft pilose below. Inflorescence corymbose-paniculate, glomerules to 2.3 cm wide, bracts 3, cordate to deltoid, 0.7-1.3 × 0.7-1 cm, short-acuminate, pilose and ciliate, phyllaries lanceolate, corolla 5-6 mm long, white. Achene 2-3 mm long, pubescent, pappus of 1 series, 5, 3-4.5 mm long, gradually dilated above.

GENERAL DISTRIBUTION: Greater Antilles, Mexico south to northern Argentina.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada.

COMMON NAME: Zou mouton.

ELEUTHERANTHERA Poit. ex Bosc

Eleutheranthera Poit. ex Bosc, Nouv. Dict. Hist. Nat. **7:** 498. 1803.

Annual herbs, hirsute. Leaves opposite, petiolate, toothed, triplinerved. Heads small, terminal and axillary, homogamous, discoid, involucre broadly campanulate, phyllaries few, unequal, receptacle convex, pales scarious, envesting the achenes; flowers mostly tubular, perfect, a few neutral ray florets occasionally present, corolla campanulate. Achenes oblong-obovate, slightly compressed, rounded at top; pappus cuplike, of smaller diameter than the achene, ciliate-dentate, or with 2 or 3 short awns.

TYPE: *Eleutheranthera ruderalis* (Sw.) Sch.-Bip.

A monospecific genus of tropical America now naturalized in the Paleotropics.

Eleutheranthera ruderalis (Sw.) Sch.-Bip., Bot. Zeit. **24:** 165. 1866.
FIGURES 227q, 246.

Basionym: *Melampodium ruderalis* Sw., Fl. Ind. Occ. **3:** 1372. 1806.
Type: Jamaica, no specimens cited.
Syn.: *Ogiera ruderalis* (Sw.) Griseb., Mem. Am. Acad. II, **8:** 513. 1862.

Herb, to 60 cm high, sometimes diffusely spreading. Leaves on petioles 3-10 mm long, blades ovate to oblong-lanceolate, 6 × 1-2.5 cm, base rounded or cuneate, apex acute, margin undulate and dentate, loosely strigose, hair bases swollen, scabrous, with scattered yellow glands. Peduncles 2-12 mm long, heads nodding, involucre 5-6 mm long, phyllaries ovate-oblong, obtuse, green or foliaceous, hispid; receptacle diffuse, pales 4 mm long, ciliate, or with apical setae, membranous; florets 4 to 6, discoid, yellow. Achenes obovoid, 2-3 mm long, angular, puberulous; pappus a crown, pubescent at apex.

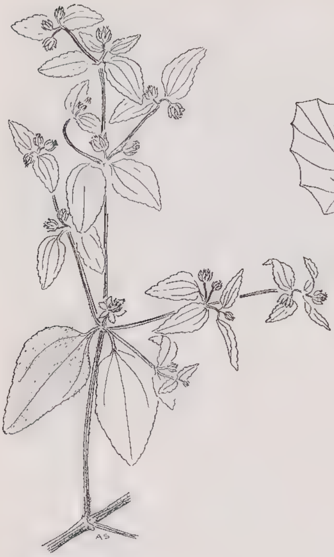
GENERAL DISTRIBUTION: Greater Antilles, Central America, northern South America, Africa.

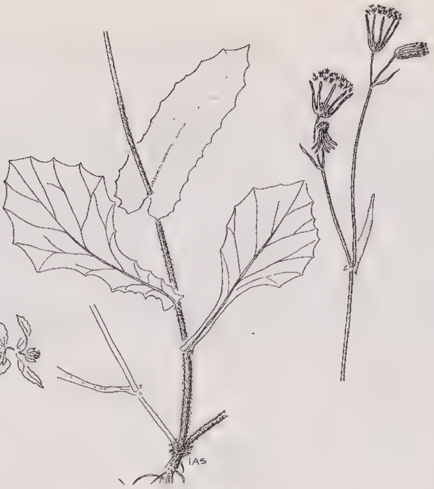
DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

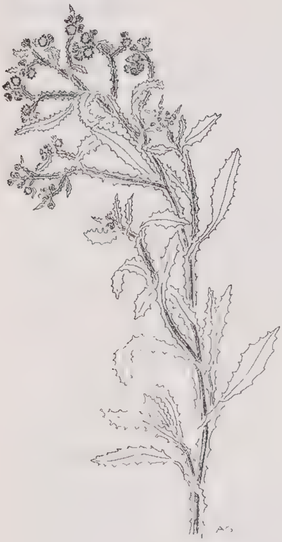
EMILIA Cassini

Emilia Cass., Bull. Sci. Soc. Philom. 68. 1817.

Annual caulescent herbs commonly with basal rosette of leaves. Basal leaves lyrate-pinnatifid, spatulate or dentate, glabrous or glaucous; stem leaves alternate, dentate or lyrately-lobed. Inflorescence laxly corymbose, heads long peduncled, discoid, involucre cylindrical, swollen at base, 1 row of lanceolate bracts, receptacle flat, naked, florets perfect, corolla tubular, short 5-fid, lavender to red or orange, anthers truncate at base. Achenes oblong, 5-angled, truncate both ends, pappus abundant, silky, scabridulous, caducous.







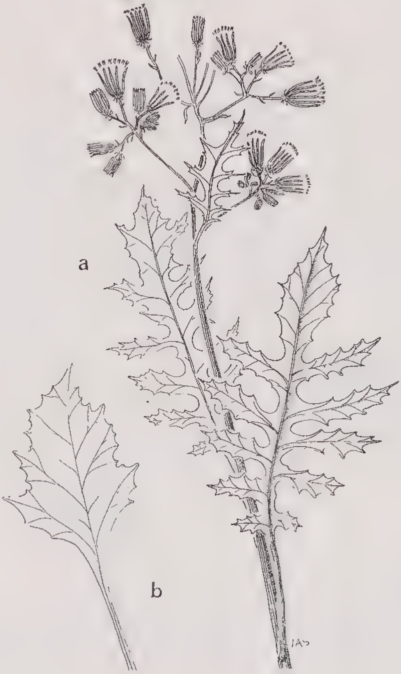


FIGURE 246 (upper left). *Eleutheranthera ruderalis*: × 0.35. FIGURE 247 (upper right). *Emilia fosbergii*: × 0.35. FIGURE 248 (lower left). *Epaltes brasiliensis*: × 0.35. FIGURE 249 (lower right). *Erechtites valerianifolia*: a, flowering shoot × 0.35; b, lower cauline leaf, × 0.35.

TYPE: *Cacalia sagittata* Vahl (nom. illegit.) = *Emilia javanica* (Burm.) C. B. Rob.

A genus of 24 species of the Paleotropics, now weedy in the neotropics. For further information see Barkley and Cronquist, N. Amer. Fl. n.s. 2, **10:** 147-150. 1978.

KEY TO THE SPECIES

1. Involucre shorter than the flowers, heads to 3 times as long as wide; leaves mostly entire, or merely toothed or weakly lobed, not pinnatifid.
    2. Involucre mostly 6-9 mm long, heads less than twice as long as wide, bracts mostly 13; florets bright red to bright or dark orange . . . . *E. coccinea*
    2. Involucre mostly 9-14 mm long, heads 2 or 3 times as long as wide, bracts from 8 to 13, flowers pink, purple or red . . . . *E. fosbergii*
1. Involucre equalling or only slightly shorter than flowers, heads very slender, commonly 3 to 4 times as long as wide, bracts ca 8, middle and lower leaves lyrate-pinnatifid; flowers lavender-pink to purple or white, only rarely red . . . . *E. sonchifolia*

Emilia coccinea (Sims) G. Don *in* Sweet, Hort. Brit. ed. 3. 382. 1839.

Basionym: *Cacalia coccinea* Sims, Bot. Mag. 16, *t. 564.* 1802.
Type: ibid. *t. 564*, no specimen located.
Syn.: *Cacalia sagittata* Vahl, Symb. **3:** 91. 1794, nom. illegit.
Emilia sagittata DC., Prodr. **6:** 302. 1837. (Type: Specimen of a plant cultivated at Paris in Vahl herbarium.)

Herb to 30 cm tall, mostly glabrous. Leaves variable in form and size, lower largest, 5-12 × 2-4 cm, dentate or subentire, often sagittate clasping at base, stem leaves sessile, sometimes sagittate at base, uppermost reduced to bracts. Inflorescence subcorymbose with 2 or 3 heads, peduncles 1.5-3.6 cm long; involucres urceolate to turbinate, 6-9 mm high, phyllaries ca. 13, flowers ca. 50, surpassing involucre by 3-5 mm, and spreading, bright red, corolla 7.5-9 mm long, lobes slender, 1.5-2.1 mm long. Achenes 3 mm long, grooved with small ribs; pappus soft silky, 3 mm long.

GENERAL DISTRIBUTION: Paleotropics and as a weed in the Neotropics.

DISTRIBUTION IN LESSER ANTILLES: Antigua, Guadeloupe!, Martinique!.

COMMON NAMES: Goutte de sang, red-head.

Emilia fosbergii Nicolson, Phytologia **32:** 34. 1975. FIGURES 227r, 247.

Type: Bahamas, *Curtis 6* (holotype, US).
Syn.: *Emilia javanica* sensu authors, non (N. Burm.) C. B. Robinson.
Emilia sagittata sensu authors, non DC.

Herb to 2 m tall, simple or branched, hirsute to glabrous. Lower leaves ovate, 2-4 × 2-3 cm, base truncate and decurrent to the petiole and stem; middle leaves oblong-lanceolate, 8-13 × 3-5 cm, sessile, often auriculate clasping, coarsely dentate, upper leaves reduced to bracts. Inflorescence subcorymbose, peduncles 1.5-3.6 cm long, terminating in 2 to 4 heads; involucre 11-15 mm long, corolla lobes 1.1-1.4 mm long, pink to purple or dark red but not orange. Achenes 4 mm long, angled, puberulent, brown; pappus silky-white, 5-7 mm long, caducous.

General distribution: Presumed to be a native of the Old World but widely distributed in the Antilles and less so in Central America and northern South America.

Distribution in Lesser Antilles: Antigua!, Saba!, St. Kitts!, Redonda!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Rabbit meat, goutte de sang rouge, ti léton.

Emilia sonchifolia (L.) DC. *in* Wight, Contr. Bot. India **1:** 24. 1834.

Basionym: *Cacalia sonchifolia* L., Sp. Pl. **2:** 834. 1753.
Type: "Zeylon, China," linn 976.10.

Herb to 30 cm tall, much-branched. Basal leaves petiolate, obovate to spatulate, 5-12 × 1.5-4 cm, terminal lobe largest, acute at the apex, dentate with one or more pairs of lobes below middle, cauline leaves lyrate, upper leaves sessile to subsagittate, dentate to lyrate, coarsely toothed, upper leaves much reduced. Inflorescence loosely corymbose, peduncles 5-15 cm long; involucral phyllaries 8 or 9, each 9-12 mm long, florets 20 to 40, corolla 7-9 mm long, lobes short, 0.5-0.7 mm long, lavender to pink. Achenes 3 mm long, ribbed, brown; pappus soft-silky, 4-5 mm long, caducous.

General distribution: Pantropical weed of Old World origin.

Distribution in Lesser Antilles: St. Martin!, Antigua!, Saba!, Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

EPALTES Cassini

Epaltes Cass., Bull. Sci. Soc. Philom. Paris **1818:** 139. 1818.

Erect branching herbs, stems often winged, puberulent or glabrate. Leaves alternate, sessile or long decurrent. Inflorescences terminal, cymose-corymbose; heads small, campanulate, heterogamous, discoid; phyllaries multiseriate, imbricate, receptacle flat, naked, outer pistillate flowers fertile, inner perfect flowers few, sterile; corolla pink or purple; achenes 5- to 10-ribbed; pappus wanting.

Type: *Epaltes divaricata* (L.) Cassini (*Ethulia divaricata* L.).

A genus of about 10 species of tropical areas.

Epaltes brasiliensis DC., *in* DC. Prodr. **5:** 461. 1836. FIGURES 227s, 248.

Type: Brazil, Bahia, *Salzmann s.n.* (IDC **800:** 907. III. 1.)

Herbs to 50 m tall, glabrous to puberulent, commonly glandular. Leaves oblong-lanceolate, 4-6 × 1-2.5 cm, base narrowed and decurrent, apex acute, margins sharply serrate, venation pinnate, foliage commonly darkening on drying. Inflorescence terminal, corymbose-paniculate, branches cymose, heads broadly campanulate, phyllaries in 2 or 3 series, broadly oblong, glandular, ciliate, disk flat or concave, corollas 1-1.2 mm long, white. Achenes 1 mm long, glandular, pappus none but corolla often persisting.

GENERAL DISTRIBUTION: Brazil.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Martinique!.

COMMON NAME: Ti carré, herbe à fer.

NOTES: Reported to be cultivated for some medicinal value and to be naturalized. Locally abundant in wet ditches on Martinique.

Epaltes brasiliensis was designated as a synonym of *Pluchea sagittalis* (Lam.) Cabrera by Cabrera (Bol. Soc. Argent. Bot. **7:** 241. 1959) and in this is followed by Burkhart (Fl. Illustrada Entre Rios, 307. 1974) and others. Cabrera examined an ''isotype'' of ''Salzmann, Compos. 4'' at FI. He suggested that the pappus was very short and not revealed, as the heads were tightly rolled. It would appear that he did not dissect a head, and he did not comment on the phyllaries, which are quite different in *Epaltes brasiliensis* and *Pluchea sagittalis.* No evidence of a bristly pappus, characteristic of *Pluchea*, can be seen in the microfiche of the type collection in G-DC. It is also possible that the FI specimen cited as ''Salzmann, Comps. 4'' is not the same as the G-DC specimen, which bears no number. Superficially the two species are similiar in foliage.

ERECHTITES Raf.

Erechtites Raf., Fl. Ludov. 65. 1817.

Annual or perennial herb. Leaves alternate, subsessile, subentire, serrate or variously lobed or incised, glabrous or pubescent. Heads heterogamous, involucre uniseriate, phyllaries linear, equal, with scarious margins; receptacle flat, naked; marginal florets in 1 or 2 series, filiform, 4- or 5-fid, pistillate; disk florets infundibuliform, 5-fid, perfect. Achenes subcylindric, 10-ribbed, apex conspicuously callose-annulate; pappus pluriseriate, subequal, capillary.

TYPE: *Erechtites prealta* Raf. = *E. hieracifolia* (L.) Raf.

A genus of 5 or 6 species mostly of the New World, from temperate North America south to Argentina, but introduced and naturalized in the Old World. For further information see R. O. Belcher, Ann. Mo. Bot. Gard. **43:** 1-85. 1956.

KEY TO THE SPECIES

Leaf sessile; heads twice as long as wide, marginal flowers bi- or pleuri-seriate; pappus white . . . . *E. hieracifolia*

Leaves petiolate or inconspicuously alate; heads 3 times as long as wide, marginal florets uniseriate or biseriate; corolla and pappus usually reddish . . . . *E. valerianifolia*

Erechtites hieracifolia (L.) Raf., ex DC., Prodr. **6:** 294. 1838.

Basionym: *Senecio hieracifolia* L., Sp. Pl. **2:** 866. 1753.
Lectotype: LINN 966.1.
Syn.: *Sonchus agrestis* Sw., Prodr. 110. 1788. (Type: Jamaica, Sloane.)
Senecio cacalioides Fisch. ex Spreng., Nov. Prov. 37. 1819. (Type: Sprengel herb. 1687 (holotype, P).)
Erechtites agrestis (Sw.) Standley & Steyermark, Field Mus. Pub. Bot. **23:** 265. 1947.
Erechtites hieracifolia var. *cacalioides* (Fisch. ex Spreng.) Griseb. emend. Belcher, Ann. Mo. Bot. Gard. **43:** 190. 1956.

Annual herb to 2 m tall, simple or much-branched, stem glabrous or pubescent. Leaves sessile or attenuate or subamplexicaul, oblanceolate, oblong-lanceolate to linear-lanceolate, 3-15 × 2-4 cm, apex acute or acuminate, margins subentire to serrate, incised or subpinnatifid, glabrous or pubescent on veins below, reduced upward. Inflorescence from single heads to terminal or axillary corymbose panicles; bracteoles linear, phyllaries broadly linear to oblong, 8-11 mm long, glabrous to setulose, with hyaline margins; florets 20 to 25 or more, corolla greenish-yellow to pale yellow. Achenes terete or slightly compressed, 2.5-3 mm long, strongly costate; pappus 8-10 mm long, bright white.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America, and introduced to the Old World.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua, Saba!, St. Eustatius!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!.

COMMON NAME: Laitue sauvage.

NOTE: Belcher does not recognize the typical variety as occurring in the Lesser Antilles.

Erechtites valerianifolia (Spreng.) DC., Prodr. **6:** 294. 1838.
FIGURES 227t, 249.

Basionym: *Senecio valerianaefolius* Spreng., Syst. Veg. **3:** 565. 1826. (Wolf, Ind. Sem. Hort. Berol. 1825 teste Reichenb., Icon. Bot. Exot. 59, *t. 85.* 1827.)
Neotype: Herb. Raffeliana *1825* (W).

Annual, to 1 m tall, stems simple or branched, glabrous or sparsely hispidulous. Lowest leaves infrequently preserved, petiolate, ovate-lanceolate to lanceolate, entire to serrate or irregularly dentate, middle leaves petiolate with decurrent blade, deeply pinnately lobed, 5-15 × 2-9 cm, upper leaves reduced. Inflorescence terminal or axillary, paniculate, heads clustered, sessile or short-stalked on peduncles 2-4 cm long, bracteoles to 1 cm long, phyllaries 12 to 14, linear, 7-8 mm long, acute, glabrous, with hyaline margins. Florets 50 or more, marginal florets 1- or 2-seriate, corolla 5-fid, apices glandulose-thickened; disk florets more numerous. Achenes cylindrical, 2.5-3.5 mm long, with 10 strong pale-brown ribs, sparsely pubescent; pappus 8-12 mm long, rose-lilac to purplish.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Mexico, Central America, South America, and introduced in the Old World.

DISTRIBUTION IN LESSER ANTILLES: Saba!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!.

COMMON NAME: Zeb colur.

NOTE: The author Wolf and the reference Ind. Sem. Hort. Berol. 1825 for the basionym, as frequently used in the existing literature, cannot be verified.

ERIGERON L.

Erigeron L., Sp. Pl. **2:** 863. 1753.

Annual to perennial herbs, sometimes slightly woody. Leaves alternate and cauline or mostly basal. Heads heterogamous, solitary or few, borne on naked or few-bracted peduncles, phyllaries narrow, in graduated series, receptacle flat or convex, naked; marginal florets pistillate, in 2 or more series, ligulate, white or blue, disk florets perfect, yellow, 5-lobed; anthers with scarious apical appendages. Achenes narrow, compressed, 2-nerved on margins; pappus of few to numerous capillary barbellate bristles.

TYPE: Not clear. Britton and Brown (1913) designated *E. acris* L. as the lectotype. M.L. Green (1929) selected *E. uniflorum* L. and has been followed by recent authors.

A genus of ca. 200 species of wide temperate and tropic distribution.

KEY TO THE SPECIES

Sprawling, slightly woody plant, stems elongate; peduncles 5-10 cm long . . . . *E. karwinskianus*

Stoloniferous, rosette-forming herbs; peduncles 1-2 cm long . . . . *E. polycladus*

Erigeron karwinskianus DC., Prodr. **5:** 285. 1836. FIGURE 228a, 250.

Type: Mexico, *Karwinski s.n.*
Syn.: *Erigeron mucronatum* DC., Prodr. **5:** 285. 1836. (Type: Mexico, *Karwinski s.n.*).

Herbaceous to woody perennial with wiry sprawling stems, glabrous. Leaves subsessile, petioles 1-2 mm long, blades oblanceolate, base and apex acute, lower 2.5-3.5 × 1-1.5 cm, the upper smaller, entire or toothed.

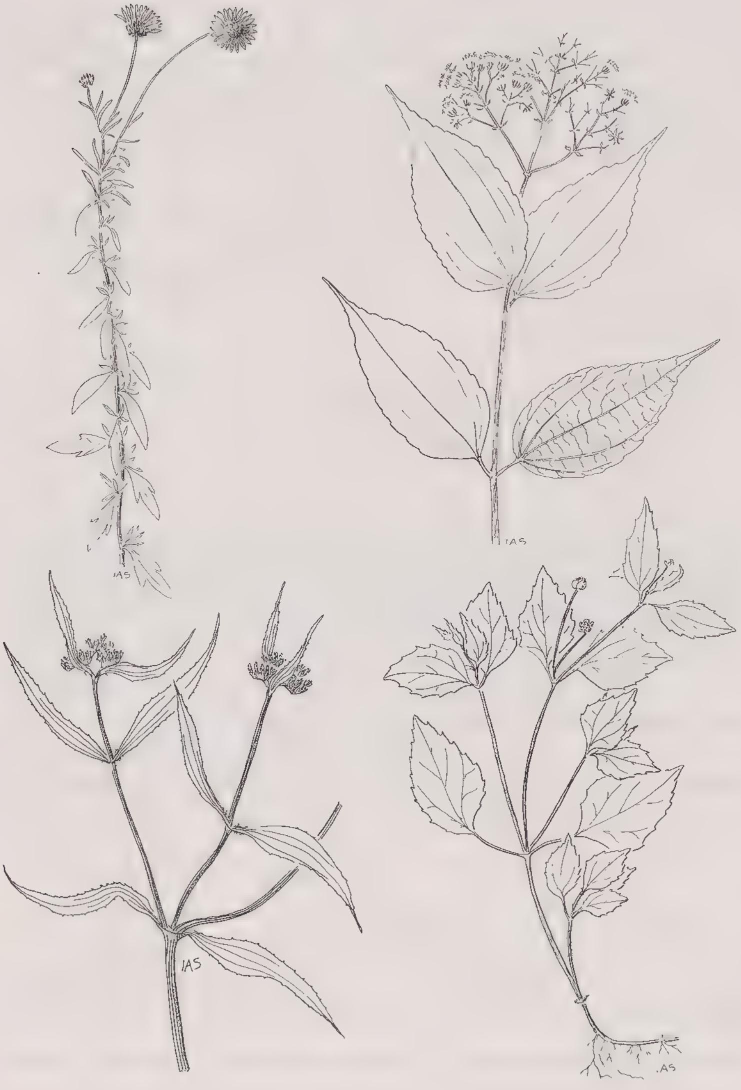


FIGURE 250 (upper left). *Erigeron karwinskianus*: × 0.35. FIGURE 251 (upper right). *Eupatorium celtidifolium*: × 0.35. FIGURE 252 (lower left). *Flaveria bidentis*: × 0.35. FIGURE 253 (lower right). *Galinsoga quadriradiata*: × 0.35.

Peduncles slender, 5-10 cm long, heads solitary, hemispheric, ca. 8 mm wide, phyllaries 3-seriate, linear-lanceolate, 3 mm long, margins membranous, slightly pilose, the outer shorter, ray florets numerous in 2 series, ligules linear-oblong, 4.5 mm long, white; disk florets numerous, corolla 2.5 mm long. Achenes 1-1.5 mm long, pilose; pappus of barbellate setae, 2.5 mm long.

GENERAL DISTRIBUTION: Mexico, Central America, Venezuela. Introduced, cultivated and naturalized elsewhere.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!.

NOTE: For further discussion see S. F. Blake, Contr. Gray Herb. **52:** 30. 1917, and O. Solbrig, Contr. Gray Herb. **191:** 44. 1962.

Erigeron polycladus Urban, Symb. Ant. **3:** 403. 1903.

Syntypes: Martinique, *Duss 969, 4672.*
Syn.: *Erigeron jamaicensis* sensu Duss, non L.
Erigeron cuneifolius sensu Fournet, non L.

Stoloniferous perennial herb, leaves in a rosette, subsessile, blades obovate to oblong-spatulate, 7-15 × 3-4 mm, base attenuate, apex obtuse, margins entire, glabrous. Heads solitary, peduncles 1-2 cm long, phyllaries 3-seriate, 4-4.5 mm long, outer apiculate, inner slightly erose, white-margined, glabrous; ray florets ca. 23 (ex Urban) pistillate, disk florets ca. 20, corolla 3 mm long. Achenes linear, 1.5 mm long, narrowed at base, pale brown, 2- to 3-ribbed; pappus setae equal, 2.5-3 mm long, red-brown.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe, Dominica, Martinique!.

NOTES: Stehlé (Not. Syst. **15**(1)**:** 74. 1954) reported his own collections of this species (*Stehlé 5703, 6671*) from Martinique. He also suggested that Duss's report (p. 359) of *E. jamaicensis* (*Duss 669, 2951*) as wild and cultivated in gardens on Guadeloupe was a different introduced *Erigeron.* Fournet (p. 627) stated that Stehlé had collected *E. cuneifolius* DC. on Guadeloupe and Martinique but cited neither reference nor specimens. Fournet did not cite *E. polycladus* Urb. None of these collections has been located.

A Duss collection labeled "969, 4672" is at NY. A photograph by H. M. Hall (GH) is a full-size reproduction of part of a sheet of Duss 969, labelled "typus," that was in Berlin in 1925. Hall's annotation states that "there is also a sheet of 4672, with plants intermediate between the largest and smallest of 969." A negative of this photograph is stated to be at the University of California.

Eupatorium L., Sp. Pl. **2:** 836. 1753.

Herbs, shrubs or small trees, occasionally scandent. Leaves mostly opposite, petiolate or sessile, simple or rarely divided or lobed, pinnate, palmately 3-nerved or triplinerved, variously pubescent, commonly with red or golden glands, or with punctations. Inflorescence a corymbose or thyrsoid panicle, heads few to many, homogamous, involucre of imbricated bracts, 1- to 3- to 12-seriate, the outermost shorter, glabrous or pubescent, erose or ciliate, often colored at tip, 3- to 5-nerved; receptacle flat, convex or acute, mostly glabrous, but pilose in *E. macrophyllum*, flowers few to many, perfect, white, pink to blue or purple, corolla cylindrical, narrowly campanulate or funnelform, anthers subauriculate at base, with scarious appendages at apex. Achenes prismatic, fusiform or obovoid, 3- to 5- ribbed, glabrous or glandular, or scabrous on ribs; pappus of numerous capillary bristles, usually barbellate, sometimes clustered at the base, usually white.

TYPE: *Eupatorium cannabinum* L.

In a broad sense a genus of 1200 or more species nearly cosmopolitan but abundant in the tropical areas. Historically the genus has received a variety of treatments in the Caribbean area. Grisebach and Duss recognized three genera: *Hebeclinum*, *Eupatorium* and *Critonia*. Britton & Wilson (1925) recognized four: *Hebeclinum*, *Osmia*, *Eupatorium* and *Critonia*. However all major floras of the area have subsequently combined all in *Eupatorium*: Spencer Moore in Fawcett & Rendle (1936), Cheesman (1940), Moscoso (1943), Alain (1962), Adams (1972) and Fournet (1978). Recognition of but one genus has been the pattern in recent floras of Mexico and Guatemala although King and Robinson contributed the segregated treatment for the Flora of Panama. The recent work of King and Robinson culminates in their book, ''The genera of the Eupatoriae (Asteraceae)'' (1987). Here 217 separately numbered research papers are listed for the authors in the bibliography. Such an effort of scholarship deserves and has received serious consideration. However 50 names have been applied to 14 specific taxa recognized from the Lesser Antilles and would have to be considered in nine of the King and Robinson genera. Most of them would be monospecific. Even though King and Robinson supply a key to the genera in the West Indies, the taxa are not clearly distinguishable. Little is to be gained by following the proposed dissection of *Eupatorium*. A single genus *Eupatorium* is recognized for this Flora, and the proper combination in the segregated genera is given for each species when available.

CULTIVATED, QUESTIONABLE, OR TAXA REPRESENTED ONLY BY ANCIENT COLLECTIONS

Eupatorium cannabinum L. Anderson received and cultivated material of this species from Trinidad. The single specimen from St. Vincent is at K.

Eupatorium laeve DC., Prodr. **5:** 169. 1836. = *Koanophyllon tinctoria* Arruda (Diss. Pl. Brasil 38. 1810). Syn.: *Eupatorium plicatum* Urban, Symb. Antill. **5:** 523. 1908. (Type: Martinique, *Duss 296* (frag. GH).) = *Koanophyllon plicata* (Urb.) King & Robinson. Phytologia **22:** 150. 1971.)

King & Robinson first transferred both *Eupatorium celtidifolium* Lam. and *Eupatorium plicatum* Urban to *Koanophyllon* in 1971 (Phytologia **22:** 149, 150. 1971). In 1975 (Phytologia **32:** 255. 1975) they treated *E. plicatum* as a synonym of *Koanophyllon celtidifolia.* In 1987 (Gen. Eupat. pp. 542, 543) they accepted *K. celtidifolia* but referred *E. plicatum* (p. 543) and *E. laeve* (p. 517) to the synonymy of *K. tinctoria.* They discussed the fact they had not seen the original publication of *K. tinctoria* Arruda and noted that they had lectotypified both *K. tinctorium* Arruda, with a neotype *Lhotsky s.n.* (DC. IDC 800. 812: I. 2) and *E. laeve* (by the same collection as a lectotype) in Phytologia **23:** 395-6. 1972. The only material I have seen of *K. tinctoria* annotated by King & Robinson is a fragment of *Duss 296* (GH), the type collection of *E. laeve* obtained by B.L. Robinson from the Krug & Urban herbarium but unannotated by him. A specimen *Hahn 396* (C, photo GH) from St. Pierre, Martinique, was originally identified on the label as "*Eupatorium tinctorium* L." and annotated by B. L. Robinson as *E. laeve* DC. with the suggestion it was from a plant introduced and cultivated. *Hahn 396* and *Duss 296* are comparable.

Eupatorium inulaefolium H.B.K. (Syn.: *Austroeupatorium inulaefolium* (H.B.K.) King & Robinson). Reported by Cheesman to be in the "southern Antilles" but no specimens have been located.

Eupatorium sexcostatum Krause (Beih. Bot. Centralbl. **32**(2): 340. 1914). Type: St. Vincent, *Krause 22557.* This specimen has not been located. King & Robinson were unable to place the species (1987).

Eupatorium triplinerve Vahl ex Blume (Syn.: *Ayapana triplinervia* (Vahl) King & Robinson). Represented from Martinique by *Sieber 333* without data and *Rodriguez 3589* from St. Pierre, and from Guadeloupe by *Quentin 627* from a garden in Basse Terre.

Eupatorium villosum Sw. (Syn.: *Koanophyllon villosum* (Sw.) King & Robinson. Represented by a collection from St. John's, Barbados, by *L.H. & E. Z. Bailey 253* (1922).

KEY TO THE SPECIES

1. Involucre cylindrical or pyriform, 3 to 5 times as long as thick; bracts closely imbricated in several graduated series, deciduous.
    2. Leaf blades 1-6 cm long.
        3. Leaf base truncate.
            4. Leaf margins crenate-serrate; flowers 10, achenes 4 mm long .... *E. corymbosa*
            4. Leaf margins entire; flowers 16 to 20, achenes 3 mm long .... *E. integrifolia*
        3. Leaf base rounded.
            5. Leaves sinuately lobed to subentire, flat, pubescent; flowers white; plants of low or coastal limestone areas .... *E. sinuata*
            5. Leaves crenate, bullate, crispose; flowers blue to violet; of mountainous areas .... *E. medullosum*
    2. Leaf blades more than 6 cm long.
        6. Leaves linear-lanceolate .... *E. ivifolia*
        6. Leaves ovate, oblong or elliptic.

7. Leaves subsessile, base rounded or obtuse; margins cartilaginous, with gland-tipped callose teeth .... *E. impetiolaris*

7. Leaves distinctly petiolate.
   8. Ultimate heads sessile in clusters of 2 or 3.
      9. Heads narrowly cylindric, 4 × 1.5 mm, stems pubescent, leaves broadly ovate and abruptly decurrent on petiole .... *E. dussii*
      9. Heads broader, plants glabrous.
         10. Leaves rounded at base, margins dentate; triplinerved, red glands present; flowers ca. 20 .... *E. osseana*
         10. Leaves acute at base, margins with callose teeth lacking resinous glands; with 2 or 3 pairs of arcuate ascending separated veins; flowers 10 to 15 .... *E. macrodon*
   8. Ultimate heads all pedunculate.
      11. Heads large, 10 × 4 mm, bracts in 12 series, flowers ca 40; leaves dentate-serrate, glabrous .... *E. macranthum*
      11. Heads smaller, flowers 8 to 20.
         12. Leaves coarsely dentate with broad-based teeth, triplinerved; plants pubescent; flowers 15 to 20; white; weeds of old fields .... *E. odoratum*
         12. Leaves sharply dentate, pinnately nerved, glabrous; flowers 8 to 15, blue to lavender; plants of mountainous areas .... *E. trigonocarpum*

1. Involucre campanulate, seldom more than twice as high as thick; bracts of 1 or 2 (or 3) series, usually reflexed and persisting after fall of achenes.
   13. Receptacle pilose pubescent, strongly convex; bracts conspicuously pubescent, heads ca. 50-flowered; leaves to 20 cm long and wide.. *E. macrophyllum*
   13. Receptacle glabrous, flat; leaves smaller.
      14. Annual herbaceous plants; heads in loose open panicles; flowers ca. 20 .... *E. microstemon*
      14. Perennial shrubs.
         15. Leaves pinnately veined; flowers 5 .... *E. magdalenae*
         15. Leaves triplinerved, flowers 6-10 .... *E. celtidifolium*

Eupatorium celtidifolium Lam., Encycl. **2:** 406. 1788.

FIGURES 228b, 251.

Type: Guadeloupe, *Badier s.n.* (Lam. Herb. 131.)
Syn.: *Koanophyllon celtidifolium* (Lam.) King & Robinson, Phytologia **22:** 149. 1971.

Shrub or slender tree, to 8 m tall. Leaves on petioles 8-13 mm long, blades ovate-oblong, 9-15 × 3-5 cm, base obtuse, rarely narrowed, apex acuminate to caudate, margin serrate-dentate, thin, glabrous or puberulent on nerves, triplinerved above the base. Panicles terminal, heads narrowly campanulate, bracts subequal, in 2 or 3 series, puberulent and glandular, flowers 6-10, corolla white; achenes 2 mm long, slightly pubescent, pappus 2 mm long.

GENERAL DISTRIBUTION: Venezuela, Colombia, Ecuador.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAMES: Tabac à diable, amourette blanc.

NOTE: The record of *E. celtidifolium* from Jamaica by Grisebach (1861, p. 36), a Macfadyen specimen, was later described by Urban (Symb. Antill. **5:** 523. 1908) as *E. gracilipes* Urb. That species was transferred to *Koanophyllon* by King & Robinson (Phytologia **32:** 258. 1975). *E. plicatum* Urban, once considered a species, later in the synonymy of *E. celtidifolium*, was most recently referred to *Koanophyllon tinctorium* by King and Robinson.

Eupatorium corymbosum Aubl., Hist. Pl. Guiane **2:** 799. 1775.

Type: Plum., Pl. Amer. 121, *t. 130, f. 1.*
Syn.: *Eupatorium atriplicifolium* Lam., Encycl. **2:** 407. 1788. Nom. illegit. based on same type as *E. corymbosum* Aubl. (Type: Plum., Pl. Amer. *t. 130, f. 1.*)
Eupatorium atriplicifolium West, Bidr. Beskr. St. Croix 302. 1793, Vahl, Symb. **3:** 96. 1794. (Type: St. Croix, *West s.n.*)
Eupatorium repandum Willd., Sp. Pl. **3:** 1767. 1804. Nom illegit. based on same type as *E. corymbosum* Aubl.
Eupatorium triangulare Poir., *in* Lam. Suppl. **2:** 604. 1812. Renaming of *E. atriplicifolium* Vahl.
Osmia corymbosa (Aubl.) Brit. & Wils., Fl. P.R. **6:** 288. 1925.
Chromolaena corymbosa (Aubl.) King & Robinson, Phytologia **20:** 200. 1970.

Shrub to 1.5 m tall, stems finely pubescent. Leaves on petioles 5-10 mm long; blades ovate, 2-6 × 3-3.5 cm, base subtruncate to cordate, apex acute, rarely obtuse, margins crenate, three-nerved, thick and fleshy, finely pubescent beneath; heads in compact terminal corymbs, 6-7 × 3.5 mm, bracts 7-9 mm long, in 5 series, pubescent or ciliate at obtuse tips, finely striate; flowers ca. 20, blue; achenes 3 mm long, pappus 4 mm long.

GENERAL DISTRIBUTION: Bahamas, Hispaniola, Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Antigua!, Saba!, St. Kitts!, Montserrat! La Désirade!, Martinique!.

NOTE: King & Robinson (1987, p. 503) refer *Eupatorium atriplicifolium* West, or Vahl, to *Chromolaena odorata* (L.) King & Robinson. A photograph (GH) of the Vahl type (C) was annotated by B. L. Robinson as *E. corymbosum* Aubl., and I believe this is correct.

Eupatorium dussii Urban, Symb. Antill. **5:** 521. 1908.

Syntypes: Guadeloupe, *Duss 4131, 3615.*
Syn.: *Critonia parviflora* sensu Duss, Fl. Phan. Antill. Franç. 357. 1897, non DC.
Chromolaena dussii (Urb.) King & Robinson, Phytologia **20:** 200. 1970.

Shrub to 4 m tall, stems copiously pubescent. Leaves on petioles 1.5-7 cm long, blades ovate, 10-24 × 6-14 cm, base narrowed and decurrent on the petiole, apex acute, margin crenate, short pilose on the veins. Inflorescence corymbose, 25 cm long and wide, heads clustered and sessile on the ultimate branches, narrowly cylindrical, 4 × 1.5 mm, bracts 4-seriate, flowers 8 to 10, corolla white. Achenes 3 mm long, scabrous on angles, pappus 3 mm long.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!.

NOTE: A collection *Duss 86* from "Antigua" is probably from Guadeloupe.

Eupatorium impetiolaris Griseb., Fl. Brit. W. Indian Is. 357. 1861.

Type: Dominica, *Imray 241*, ex Domin, Bot. Bohem. **9:** 65. 1930.
Syn.: *Chromolaena impetiolaris* (Griseb.) Nicolson, Phytologia **64:** 164. 1987.

Shrub, to 1.5 m tall, stems glabrous. Leaves subsessile or with petioles at most 3 mm long; blades elliptic-oblong to lanceolate-oblong, 10 × 4 cm, base rounded, apex acuminate, margin cartilaginous with blunt remote callose teeth, thick, three-nerved, glabrous. Inflorescence corymbose, heads pedicellate, cylindrical, 6 × 2 mm, bracts in 4 to 6 series, purplish at tips, flowers 11 or 12, corolla white. Achenes 3 mm long, scabrous on angles, pappus 3 mm long.

GENERAL DISTRIBUTION: Endemic to Dominica.

Eupatorium integrifolium Bert. ex Spreng., Syst. **3:** 410. 1826.

Type: Guadeloupe, *Bertero s.n.*
Syn.: *Chromolaena integrifolia* (Bert. ex Spreng.) King & Robinson, Phytologia **20:** 202. 1970.

Shrub to 3 m tall, stems appressed pubescent. Leaves with petioles 0.5-1.5 cm long, blades ovate to subcordate-oblong, 2-6 × 2-5 cm, base cordate or truncate, apex obtuse or rarely acute, margins entire or undulate, appressed pubescent below. Inflorescence paniculate, of compact cymose heads, heads cylindrical, 5-6.7 × 2.5-3 mm, bracts in 5 series; flowers 16 to 20, blue. Achenes 3 mm long, scabrous on margins, pappus 3 mm long.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Marie Galante!, Les Saintes!, Dominica!.

COMMON NAME: Violette bord de mer.

Eupatorium iresinoides Kunth *in* H.B.K. Nov. Gen. Sp. **4:** 83, pl. 340. ed. folio 1818; **4:** 106. 1818 ed. quarto.

Type: Colombia, *Humboldt and Bonpland s.n.*
Syn.: *Eupatorium sieberianum* DC., Prodr. **5:** 181. 1836. (Type: Trinidad, *Sieber,* Fl. Trin. 72 (IDC 800. **817:** II. 1).)
Eupatorium iresinoides H.B.K. forma *integra* Domin, Bot. Bohem. **9:** 66. 1930 (Type: Dominica, *Domin 1926.*)
Condylidium iresinoides (H.B.K.) King & Robinson, Phytologia **24:** 381. 1972.

Diffuse shrubs to 2 m tall, branches weak and scrambling. Leaves with petioles 1-2 cm long, blades ovate, 4-11 × 2-6 cm, base truncate but also abruptly decurrent on petiole, apex acute, margin undulate to subdentate, densely pubescent to glabrate, triplinerved with additional strong lateral nerves. Inflorescence a thyrsoid-panicle, laxly branched; heads short-peduncled, bracts 15, in 5 rows, each 3-seriate, unequal, veined, to 4 mm long, flowers 5 or 6, white. Achenes 2 mm long, ridged, pubescent, pappus 2.5-3.5 mm long.

GENERAL DISTRIBUTION: Cuba, Central America, South America from Venezuela to Bolivia.

DISTRIBUTION IN LESSER ANTILLES: Saba!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

Eupatorium ivifolium L., Syst. Nat. ed. 10, 1205. 1759.

Type: Jamaica, LINN 978.28.
Syn.: *Chromolaena ivaefolia* (L.) King & Robinson, **20:** 202. 1970.

Shrub to 1.5 m tall, stems roughly pubescent. Leaves with petioles to 1 cm long, blades linear-lanceolate to oblong-lanceolate, 3-8 × 0.5-3 cm, base narrowed, apex acute, margin dentate at least below the middle, triplinerved. Inflorescence corymbose, heads cylindrical, 8 × 3 mm, flowers 10 to 20, purple. Achenes 2-3 mm long, glabrous or nearly so; pappus 3 mm long.

GENERAL DISTRIBUTION: Southern U.S., Greater Antilles, Mexico south to Argentina.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique!.

Eupatorium macranthum Sw., Fl. Ind. Occ. **3:** 1315. 1806.

Type: Martinique, *Fahlberg s.n.* (ex Swartz).
Syn.: *Chromolaena macrantha* (Sw.) King & Robinson, Phytologia **20:** 203. 1970.

Shrub to 2.5 m tall, stems glabrous. Leaves with petioles 3-7 cm long, blades broadly ovate to deltoid-ovate, 8-18 × 4.5-11 cm, base truncate to rounded, apex short-acuminate, margin dentate-serrate, glabrous, triplinerved. Inflorescence terminal paniculate-corymbose, heads on peduncles 10-12 mm long, 10-11 × 4 mm, bracts in 12 series, to 7 mm long, 5-lined, dull brown, receptacle elongated, acute, flowers 40, white. Achenes 3-5 mm long, slightly pubescent, pappus 4 mm long.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Saba!, St. Eustatius, St. Kitts!, Nevis!.

Eupatorium macrodon DC., Prodr. **5:** 145. 1836.

Type: Dominica, ex Herb. l'Héritier, DC. (IDC 800. **804:** II. 2).
Syn.: *Chromolaena macrodon* (DC.) Nicolson, Phytologia **62:** 164. 1987.

Shrub to 2 m tall, glabrous. Leaves on petioles 1 cm long; blades ovate to ovate-lanceolate, rarely elliptic-lanceolate, 8-11 × 3.5-5 cm, base rounded, apex acuminate or acute, margin cartilaginous, with thick callose teeth, glabrous, triplinerved with an occasional upper pair widely separated. Inflorescence terminal corymbose, ultimate heads in clusters of 2 or 3, 8 × 3 mm, bracts in 5 or 6 series, flowers 15 to 20, white. Achenes 3-3.5 mm long, pappus 3.5 mm long.

GENERAL DISTRIBUTION: Endemic to Dominica.

Eupatorium macrophyllum L., Sp. Pl. **2:** 1175. 1753.

Type: Plum., Pl. amer. *pl. 129.* 1757.
Syn.: *Hebeclinum macrophyllum* (L.) DC., Prodr. **5:** 136. 1836.

Herb to 3 m tall, tomentellous. Leaves on petioles 3.5-5 cm long; blades broadly ovate to cordate, 7-20 × 5-10 cm, base rounded to cordate, slightly decurrent toward petiole, apex acuminate, margin crenate, papyraceous, densely tomentellous below, basally palmately 3-veined. Inflorescence densely corymbose-paniculate, heads oblong-campanulate, 4.5 × 3 mm, bracts in 4 or 5 series, 4- or 5-striate, flowers ca. 50, white, receptacle convex, hirsute. Achenes 1-1.2 mm long, black, ribs lighter, pappus 3 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Mexico south to Argentina.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Grenada!.

COMMON NAMES: Zeb à chjat, herbe à chat.

Eupatorium magdalenae Stehlé, Adansonia **2:** 349. 1962.

Type: A renaming of *E. macropus* Urb. but citing as isotypes *Duss 194*, *298*, and *Sieber 184*, the type of *Critonia macropoda* DC.
Syn.: *Critonia macropoda* DC., Prodr. **5:** 140. 1836. (Type: Martinique, *Sieber 184*. DC. (IDC 800. **802:** II. 8).
Eupatorium macropus Urban, Symb. Antill. **1:** 460. 1899. A renaming of *Critonia macropoda* DC., non *E. macropodum* Baker.
Critonia dominicensis King, Phytologia **23:** 405. 1972. (Type: Dominica, *King 6301*, holotype, US.)

Shrub to 4 m tall. Leaves with petioles 1.5 cm long, blades ovate-lanceolate to lanceolate, 15-20 × 4-6 cm, base acute and decurrent to the petiole, apex long-acuminate, margin serrate, teeth often apiculate, glabrous, pinnately veined, the vein aereoles often with translucent areas. Inflorescence terminal, corymbose-paniculate, heads campanulate, 4 × 2.5 mm, bracts in 3 series, flowers 5, color not reported. Achenes 2.5 mm long, prismatic, 5-angled or ribbed, setulose on ribs, or interfaces; pappus 2.5 mm lomg.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!.

NOTES: It is necessary to follow the Code Art. 64.3 Ex. 8 where it is noted "*heteropus* and *heteropodus*" are to be treated as homonyms. Stehlé's discussion is confusing but he does provide the only specific epithet to be used in *Eupatorium.* Stehlé cited *Duss 194* as the type of his species and suggested that *Sieber 174* was from "Trinidad." The Sieber collection is certainly from Martinique and mislabeled, as Cheesman had concluded previously (Fl. Trin. Tob. **2:** 70. 1940).

The personal collection which King described as *Critonia dominicensis* is questionably distinct. No differentiating characteristics were given in the original description, and King and Robinson (1987, p. 298) recognize *Critonia macropoda* DC. and attribute it to Trinidad and *C. dominicensis* King to the "Lesser Antilles." In the same work (p. 519) they list *Eupatorium macropus* (DC.) Urb. as a nom. illegit. and *E. magdalenae* as a nom. nov. and refer both to *Critonia macropoda* DC.

Eupatorium medullosum Urb., Symb. Antill. **3:** 393. 1903.

Syntypes: Martinique, *Duss 295b, 295c.*
Syn.: *Eupatorium sessile* L. C. Rich. MS. name ex Stehlé Not. Syst. Paris **15:** 70. 1954.

Shrub to 1 m tall, stems crispose pubescent. Leaves with petioles 2-4 mm long, blades ovate, 3.5-6 × 2-3.5 cm, base rounded to broadly cuneate, apex obtuse, margin dentate, blade coriaceous, bullate, pinnately veined. Inflorescence corymbose, heads on peduncles to 9 mm long, 7 × 3 mm, bracts 6 series, dark-brown-tipped, ciliate at apex, flowers 20, violet. Achenes 3-3.5 mm long, pilose on ribs, pappus 3 mm.

GENERAL DISTRIBUTION: Endemic to Martinique, collected only on Mt. Pelée.

NOTES: The collection *Duss 295* may be a mixture. In the original description of this species Urban cited two collections or specimens as *Duss 295b* and *295c* and recognized two forms called A and B. Duss (Fl. Phan. Antill. Franç. 355) had cited his collection *295* as *E. vahlianum.* Later Urban referred *Duss 295* and *927* to *E. trigonocarpum* where *E. vahlianum* is now regarded as a synonym (Symb. Antill. **5:** 522. 1908). Only one fragment of a suffixed *Duss 295* has been located, GH, as *Duss 295b.* Three sheets at NY bear numbers *Duss 2483*; *295* and *925*; and *295* and *927*; all are referred to *E. trigonocarpum.* It is impossible to suggest lectotypification at this time.

King and Robinson (1987, p. 520) refer *E. medullosum* to their genus *Chromolaena* but do not make the combination or list the species under the generic treatment of *Chromolaena* (1987, p. 386).

Eupatorium microstemon Cass., *in* Cuvier Dict. Sci. Nat. **25:** 432. 1822.

Type: "Cult. in Jardin de Roi, Paris 1822." Origin unknown.
Syn.: *Eupatorium guadelupense* Spreng., Syst. **3:** 414. 1826. (Type: Guadeloupe, *Bertero s.n.*)
Eupatorium paniculatum Schrad., Com. Soc. Sci. Gott. **6:** 130. 1827, non Miller 1768.
Eupatorium berterianum Colla, Mem. Taur. Acad. **33:** 35, *t. 8.* 1829. (Type: Guadeloupe, *Balbis.*)
Fleischmannia microstemon (Cass.) King & Robinson, Phytologia **19:** 204. 1970.

Herb to 1 m, annual, glabrous or sparingly pubescent. Leaves on petioles 1-2.5 cm long, blades ovate, rhombic-ovate, to suborbicular, 3-6 × 3-4 cm, base subcordate, subtruncate or cuneate, apex acute to acuminate, margins crenate-dentate, membranaceous, triplinerved. Inflorescence of corymbs in loose panicles, heads campanulate 4 × 2.5 mm, bracts linear, in 3 series, reflexed on maturity, flowers ca. 20, white. Achenes 1.5-2 mm long, glabrous, pappus 2 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Central America, northern South America, Africa.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua!, Saba!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia, St. Vincent!, Grenada!.

COMMON NAMES: Tabac à jacot petit, tabac à diable bâtard.

Eupatorium odoratum L., Syst. ed. 10, 1205. 1759.

Type: Jamaica or Barbados, Plukenet, Phyt. 177, f. 3.
Syn.: *Eupatorium conyzoides* Vahl, Symb. Bot. **3:** 96. 1794, non Miller 1768.
Eupatorium brachiatum Sw. ex Wikstr., Kongl. Vetensk. Acad. Handl. 71. 1828. (Type: Guadeloupe, *Forsstrom s.n.* (c!).)
Osmia odorata (L.) Schultz-Bip. Pollichia **22-24:** 10. 1866.
Chromolaena odorata (L.) King & Robinson, Phytologia **20:** 204. 1970.

Shrub to 1.5 m tall, branches divaricate, often scrambling, pubescent. Leaves with petioles 1-2 cm long, blades subdeltoid, ovate to ovate-lanceolate, 5-15 × 3-8 cm, base truncate or slightly cuneate, apex acuminate, margin coarsely and irregularly dentate, scabrous above, puberulent below, triplinerved. Inflorescence of compact terminal corymbs, terminating lateral branches, heads cylindrical, 8 × 3 mm, bracts in 4 series, flowers 15 to 20, blue. Achenes 4 mm long, pappus 5 mm long.

GENERAL DISTRIBUTION: Florida, Texas, Greater Antilles, Mexico, south to Argentina.

DISTRIBUTION IN LESSSER ANTILLES: Anguilla!, St. Martin, St. Barts!, Antigua!, Saba!, St. Eustatius!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Christmas bush, baby tea, fleurit-Noël.

Eupatorium osseanum DC., Prodr. **5:** 144. 1836.

Type: "Havana, Cuba" *de la Ossa.* DC. (IDC 800. 804: I. 1).
Syn.: *Chromolaena osseana* (DC.) King & Robinson, Phytologia **20:** 204. 1970.

Shrub to 3 m tall with scrambling branches, puberulent to glabrate. Leaves with petioles 1-2 cm long, blades ovate-lanceolate, 5-12 × 3.5-7 cm, base rounded to subcuneate, apex acuminate, margin coarsely dentate, shiny above, slightly bullate, triplinerved. Inflorescence paniculate, heads in corymbose clusters, the ultimate clusters of 2-5 sessile; heads cylindrical, 5-6 × 3 mm, bracts in 5 series, flowers ca. 20, white. Achenes 2.5 mm long, glabrous; pappus 3 mm long.

GENERAL DISTRIBUTION: Endemic to St. Vincent.

NOTES: The species has not been recollected in Cuba. Anderson's notes report shipments of plants to Cuba, and the *de la Ossa* specimen was probably from a plant of St. Vincent cultivated in the botanical garden under his direction.

Eupatorium sinuatum Lam., Encycl. **2:** 407. 1788.

Type: Plum., Amer. 120, *t. 128, f. 1.* 1757.
Syn.: *Eupatorium canescens* Vahl, Symb. **3:** 95, *t. 73.* 1794. (Type: *Chromolaena sinuata* (Lam.) King & Robinson, Phytologia **32:** 283. 1975.

Branched shrub to 2 m tall, branches and foliage canescent. Leaves with petioles 3-6 mm long, blades mostly ovate, 1-3 × 1-1.5 cm, base truncate to cuneate, apex acute to obtuse, margin sinuately lobed to subentire, green above, canescent and pale below. Inflorescence a small terminal corymb, heads oblong-cylindric, 4 × 3 mm, bracts in 3 or 4 series, pubescent, flowers 10, white. Achenes 4 mm long, pubescent, pappus 4 mm long.

GENERAL DISTRIBUTION: Cuba, Hispaniola, Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Eustatius, Montserrat!, Guadeloupe, La Désirade!.

NOTE: Further study may prove *E. sinuata* and *E. canescens* to be distinct species, or the former only shoots of vigorous growth.

Eupatorium trigonocarpum Griseb., Fl. Brit. W. Indian Is. 359. 1861.

Type: Dominica, *Imray 51*, designated by Domin, holotype K (Acta Bot. Bohem. **9:** 65. 1930.)
Syn.: *Eupatorium punctatum* sensu Lam., Encycl. **2:** 408. 1786, non Miller 1768.
Eupatorium vahlianum Urb. *in* Duss, Fl. Phan. Antill. Franç. 355. 1897; Symb. Ant. **5:** 522. 1908. (Syntypes: Guadeloupe, *Duss 2483*; Martinique, *Duss 295*).
Eupatorium punctatum "L.", Duss, Fl. Phan. Antill. Franç. 354. 1897. (Type: *Duss 299*, *2528*).
Eupatorium mononeuron Urb., Symb. Antill. **3:** 392. 1903. (Type: Dominica, *Eggers 71*, *1451*).
Chromolaena trigonocarpum (Griseb.) King & Robinson, Phytologia **20:** 207. 1970.
Chromolaena mononeura (Urb.) King & Robinson, Phytologia **20:** 203. 1970.

Shrub to 2.5 m tall, branches scabrous-pubescent. Leaves with petioles 8-20 mm long, blades ovate to ovate-lanceolate, 7.5-13 × 3-6.5 cm, base narrowed and decurrent to the petiole, apex acuminate, margin coarsely serrate, glabrate above, scabrous-pubescent below, pinnately veined or with 1 or 2 pairs of strong arcuate veins near the middle of the blade. Inflorescence corymbose, heads mostly sessile, or on peduncles 3-6 mm long, 6 × 2-3 mm, bracts in 5 series, erose at apex, flowers 8 to 15, pale purple. Achenes 2.5-3 mm long, scabrous on ribs, pappus 3.4 mm long.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

NOTES: Stehlé (Not. Syst. Paris **15:** 69. 1954) following Urban's suggestion, felt the name *E. vahlianum* should be reserved for plants from Martinique.

FLAVERIA Juss.

Flaveria Juss., Gen. 186. 1789.

Annual herbs, divaricately branched. Leaves opposite, decussate, simple, sessile, dentate or entire, often connate, strongly 3-nerved. Inflorescence terminal or axillary, heads in dense cymes or glomerules, radiate or discoid, heterogamous, phyllaries 2 to 5 in 2 or 3 series, receptacle convex, naked; ray florets 1 or absent, pistillate, ligulate, ligule yellow, inconspicuous; disk florets 1 to 15, perfect, corolla tubular below, campanulate above, 5-lobed, yellow, anthers obtuse at base, appendiculate above. Achenes narrowly obovoid, 8- to 10-ribbed, glabrous, black; pappus wanting.

LECTOTYPE: *Flaveria chilensis* Gmel. = *F. bidentis* (L.) Kuntze.

A genus of 21 species of the New World with several species adventive weeds in tropical areas. For further information see A. M. Powell, Ann. Missouri Bot. Gard. **65:** 590-636. 1978.

KEY TO THE SPECIES

Heads greenish-yellow to whitish; phyllaries strongly nerved; receptacle of glomerules setose . . . . *F. trinervia*
Heads bright yellow; phyllaries inconspicuously nerved; receptacle of glomerules naked . . . . *F. bidentis*

Flaveria bidentis (L.) Kuntze, Revis. Gen. Pl. **3:** 148. 1898.
FIGURES 228c, 252.

Basionym: *Ethulia bidentis* L., Mant. Pl. 110. 1767.
Type: "India," but probably tropical America (LINN).

Erect branched annual to 1 m, stems sparsely puberulent to glabrate, green or purple tinged, drying yellow. Leaves sessile, or with petioles to 0.5 cm long, blades narrowly elliptic, oblanceolate or lanceolate, 5-12 × 0.3-2 cm, base narrowed, the upper leaves connate or amplexicaul, apex acute, margin cartilaginous, serrate to serrulate, 3-nerved from base, glabrous to slightly villous. Heads secund, in many pedunculate congested glomerules; phyllaries 4-5 mm long, pistillate flowers ligulate, yellow, ligule 0.5-1 mm long, emarginate, glabrous; perfect florets, 2.5-4.3 mm long, campanulate with 5 spreading lobes, 0.5 mm long. Achenes 2-2.5 mm long, narrowly obovoid, slightly compressed, ridged, black, glabrous; pappus wanting.

GENERAL DISTRIBUTION: Western South America from Ecuador to Argentina, and as a weed in S.E. United States, the Greater Antilles and Africa.

DISTRIBUTION IN LESSER ANTILLES: Antigua!.

Flaveria trinervia (Spreng.) Mohr, Contr. U.S. Natl. Herb. **6:** 810. 1901.

Basionym: *Oedera trinervia* Spreng., Bot. Gard. Halle 63. 1800.
Type: Cultivated plant in Bot. Gard. Halle, n.v.

Erect branched annual to 40 cm tall; stems glabrous, purplish. Leaves sessile and usually connate, or with petioles to 1.5 cm long; blades lanceolate, oblanceolate to elliptic, 3-15 × 1-4 cm, base narrowed, apex acute to subobtuse, margins serrate or denticulate, 3-nerved. Heads greenish-yellow to whitish, usually 1-flowered, aggregated in glomerules, phyllaries 3-4.5 mm long, strongly nerved; ray florets with corollas 3 mm long, corolla of disk florets 2-3 mm long. Achenes subclavate, 2-2.6 mm long; pappus wanting.

GENERAL DISTRIBUTION: A weedy species of wide distribution in southern U.S. and Greater Antilles and the Old World tropics.

DISTRIBUTION IN LESSER ANTILLES: Barbados!.

GALINSOGA Ruíz & Pavón

Galinsoga Ruíz & Pavón, Fl. Peruv. Prodr. 110, *t. 24.* 1794.

Annual herbs, stems erect or decumbent, striate, sparsely to densely pilose. Leaves opposite, sessile or petiolate, petioles narrowly connate around stem, blades elliptic to broadly ovate, 3-veined, peduncles slender, heads in loose or congested cymes, heterogamous, radiate, involucre hemispherical to narrowly campanulate, phyllaries 1- to 3-seriate, receptacle broadly to narrowly conical, pales usually dimorphic, outer lanceolate to ovate, entire to trifid, often joined and enclosing ray floret, inner linear to narrowly ovate, entire to deeply trifid, ray florets 3 to 15 fertile, corolla white or purple, ligules ovate, obovate usually trilobed; disk florets 5 to 150, fertile, corolla yellow, greenish-yellow, rarely purple, lobes 5. Achenes obconical to obpyramidal, glabrous or strigose, pappus wanting or of lanceolate laciniate, obtuse or aristate scales.

LECTOTYPE: *Galinsoga parviflora* Cav.

An American genus of 14 species. For further information see J. M. Canne, Rhodora **79:** 319-389. 1977.

KEY TO THE SPECIES

Stems and peduncles pilose with long spreading hairs and long-stalked glands; leaves broadly ovate, serrate or crenate; receptacle scales entire or short-laciniate, pappus scales about half the length of the achene body, shorter than the corolla of disk florets . . . . *G. quadriradiata*

Stems glabrous or nearly so, hairs on peduncle short, ascending, mixed with short stalked spreading glands; leaves ovate, subentire; receptacle scales 3-fid, pappus scales about as long as the body of the achene, longer than the corolla of the disk florets . . . . *G. parviflora*

Galinsoga parviflora Cav., Icon. **3:** 41, *t. 281.* 1795.

Type: Cultivated plant at Madrid grown from seed from Peru sent by Dombey (holotype, MA).

Annual herbs to 60 cm tall; stems green to reddish-purple, nearly glabrous to moderately pilose. Leaves with petioles to 2.5 cm; blades broadly to narrowly ovate to lanceolate-ovate 1-11 × 0.5-7.2 cm, base cuneate to rounded, apex acute to acuminate, margins ciliate, denticulate to serrate, sparsely to moderately pilose. Peduncles 0.1-4 cm long, heads 3.5-5 mm tall, 2-6 mm wide, outer phyllaries 2 to 4, scarious-margined, persistent, glabrous, inner phyllaries and attached pales persistent, inner pales deeply trifid, ray florets usually 5, corolla dull-white to pink-purple, ligules absent to 1.5 mm long. Achenes 1.5-2.5 mm long, pappus wanting or of scales 1 mm long; disk florets 8 to 50. Achenes 1.2-2 mm long, glabrous and epappose or strigose and with 15 to 20 blunt to acute, deeply fimbriate, white or gray scales, or scales absent.

GENERAL DISTRIBUTION: Worldwide weed of disturbed or agricultural areas.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Martinique.

Galinsoga quadriradiata Ruíz & Pavón, Syst. Veg. Fl. Peruv. Chil. **1:** 198. 1798. FIGURES 228d, 253.

Type: Peru, *Ruíz & Pavón s.n.* (holotype, MA).
Syn.: *Vargasia caracasana* DC., Prodr. **5:** 676. 1836. (Type: Venezuela, *Vargas 267* (holotype, G-DC).)
Galinsoga caracasana (DC.) Schultz-Bip., Bull. Soc. Bot. France **12:** 80. 1865.
Adventina ciliata Raf., New Fl. N. Am. **1:** 67. 1836. (Type unknown.)
Galinsoga ciliata (Raf.) Blake, Rhodora **24:** 35. 1922.

Annual herbs to 60 cm tall; stems erect or spreading, moderately to densely pilose. Leaves with petioles 0.2-6 cm long, blades broadly to narrowly ovate, 1.6-9.5 × 0.5-5.5 cm, base cuneate to rounded, apex acute to obtuse, sparsely to densely pilose, margins ciliate, serrulate to serrate or crenate-serrate. Peduncles 0.2-5.2 cm long, heads 3-8 mm tall, 2-10 mm wide, involucre campanulate with scattered capitate trichomes, outer bracts 1 or 2, margins herbaceous, deciduous, inner phyllaries and attached pales deciduous, inner pales usually entire, or weakly bifid or trifid, rarely deciduous; ray florets 5, ray ligules 2.5 mm long, white to dark purplish-red. Achenes 1.3-1.8 mm long, glabrous or strigose, pappus coroniform, of few bristles or 8 to 20 elliptic to obovate, fimbriate, aristate scales. Disk florets, 15 to 65, corolla with reddish-purple lobes and throats. Achenes angular, 1.1-1.6 mm long, strigose, pappus of few narrow-fimbriate scales, to 20 aristate.

GENERAL DISTRIBUTION: Weeds in most temperate and tropical areas of the world.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique.

GNAPHALIUM L.

Gnaphalium L., Sp. Pl. **2:** 850. 1753.

Small annual or perennial herbs, loosely or closely woolly. Leaves alternate, mostly spatulate or oblanceolate, occasionally linear, margins flat. Heads heterogamous, involucral bracts with a few minute thin streaks, flat, tip of lamina opaque or subopaque, light brown, creamy or white. Corolla with hairs on abaxial surface of lobes. Achenes glabrous or with double hairs. Pappus monomorphic or dimorphic, bristles free or fused in groups, or in a ring at base, or pappus wanting in female flowers.

LECTOTYPE: *Gnaphalium uliginosum* L.

A genus of 200 species of cosmopolitan distribution. Antillean representatives have been rarely collected and many are inadequately known.

Gnaphalium antillanum Urban, Repert. Spec. Nov. Regni Veg. **13:** 482. 1915.
FIGURES 228e, 254.

TYPE: Saba, Suringar s.n.

Annual herb, to 25 cm tall, stems simple or branched, white tomentose. Leaves sessile, not decurrent, linear 1.5-4 × 1-2.4 cm, base tapering, apex narrowed to acute or obtuse point, tomentose or glabrescent above, white-tomentose below. Spikes terminal, 3-5 cm long, cylindrical, phyllaries in 3 series, obovate-lanceolate to linear, to 3 mm long, acute or obtuse, tomentose; flowers 2.2 mm, white. Achenes oblong, 0.5 mm, minutely muricate; pappus 2.3 mm.

GENERAL DISTRIBUTION: Bahamas, Cuba.

DISTRIBUTION IN LESSER ANTILLES: Anguilla, St. Martin, Saba, Guadeloupe!.

NOTE: The occurrence of *Gnaphalium luteo-album* L., *Gnaphalium indicum* L., *G. americanum* Mill. and *Gamochaeta purpurea* (L.) Cabrera, as reported by Fournet, can not be verified.

GUNDLACHIA A. Gray

Gundlachia A. Gray, Proc. Amer. Acad. **16:** 100. 1880.

Shrubs, viscid. Leaves alternate, entire, linear to oblanceolate. Heads numerous, discoid and radiate in terminal thyrses or compound corymbs, involucre obconic, phyllaries coriaceous, imbricated, in 4- or 5-series, outer much shorter, ray florets few, pistillate; disk florets perfect. Achenes nearly terete, 5-nerved; pappus a single series of capillary bristles.

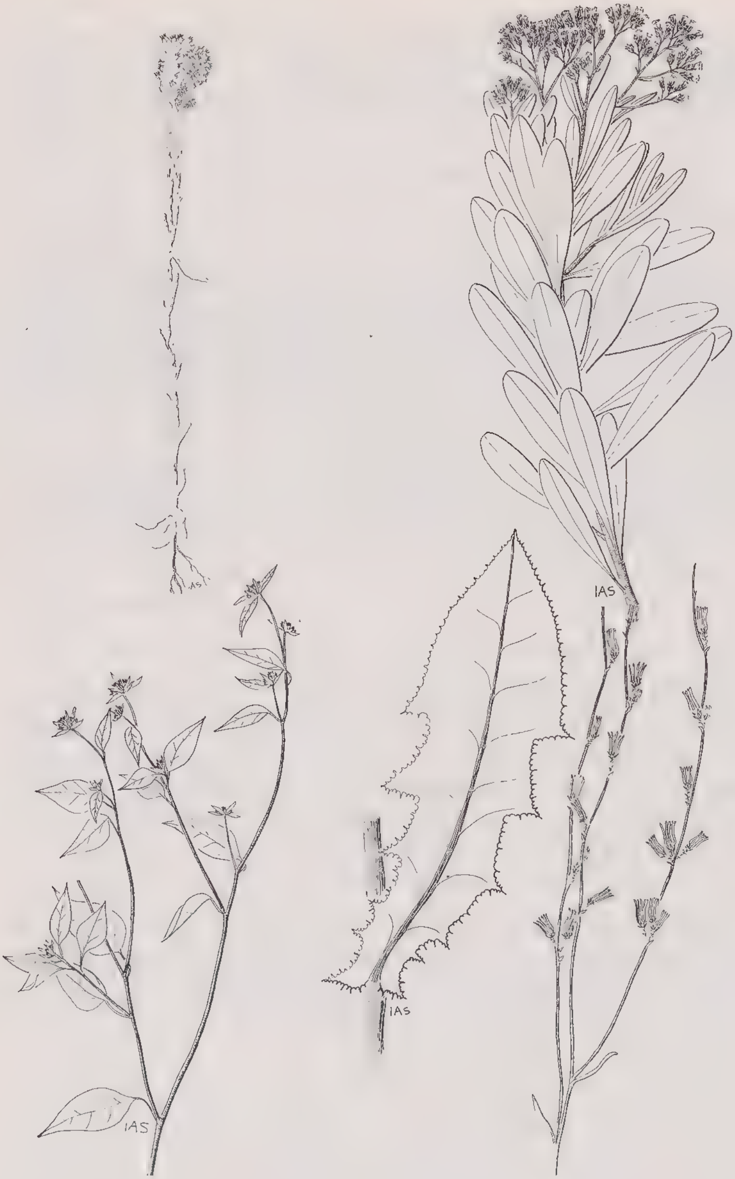


FIGURE 254 (upper left). *Gnaphalium antillanum*: × 0.35. FIGURE 255 (upper right). *Gundlachia corymbosa*: × 0.35. FIGURE 256 (lower left). *Lagascea mollis*: × 0.35. FIGURE 257 (lower right). *Launaea intybacea*: × 0.35.

TYPE: *Solidago domingensis* Spreng. = *G. domingensis* (Sprengel) A. Gray.

A genus of 6 or 7 species of Cuba, Hispaniola, Bahamas, Curaçao.

Gundlachia corymbosa (Urban) Britton ex Bold. *in* Fl. Ned. West Ind. 391. 1913. FIGURES 228f, 255.

Basionym: *Gundlachia domingensis* var. *corymbosa* Urb., Symb. Antill. **3:** 406. 1903.
Type: Not selected from many syntypes cited.
Syn.: *Baccharis dioica* sensu Duss, non Vahl.

Shrub to 1.2 m tall, glabrous, viscid. Leaves subsessile; blades oblanceolate, to oblong-lanceolate, 3-8 × 0.5-2 cm, base narrowed, apex obtuse or rounded, emarginate or apiculate, fleshy, margin entire. Inflorescence corymbose, dense, 3-10 cm broad, heads short-peduncled, bracteate, involucre 5 mm high, phyllaries acute or acutish, outer ovate, inner linear-lanceolate; ray florets 3 or 4, ligules white, 2 mm long, disk florets 2 to 5, white. Achenes oblong, 2 mm long, angular, with ascending pilose hairs; pappus setae numerous, to 5 mm long, minutely barbellate, tawny.

GENERAL DISTRIBUTION: Bahamas, Hispaniola, Puerto Rico, Curaçao.

DISTRIBUTION IN LESSER ANTILLES: Barbuda!, Saba!, Montserrat!, Guadeloupe, La Désirade!.

COMMON NAMES: Yam bush, bois-Guillaume.

LAGASCEA Cavanilles

Lagascea Cav., Anal. Ci. Nat. **6:** 331. 1803, corr. Willd. Enum. Pl. Horti. Berol. 941. 1809, nom. et orth. cons.

Mostly woody perennials, but *L. mollis* an annual herb, copiously pubescent, with stipitate-glandular hairs. Leaves opposite, entire or toothed, 3-nerved. Heads 1-flowered and aggregated into campanulate or subglobose clusters, these subtended by bracts, true involucre calyxlike, tubular, gamophyllous, 5- to 7-lobed; flowers perfect, fertile, corolla yellow, white, pink to red, tube narrow, upper portion cylindric-campanulate, 5-lobed; anthers auriculate at base, with scarious apical appendages. Achenes oblanceolate in outline, compressed, glabrous below, black; pappus a short scarious-lacerate crown, 2 or 3 teeth sometimes elongate.

TYPE: *Lagacea mollis* Cav.

A genus of 8 species of Mexico with one annual weed worldwide in distribution. For further information see T. Stuessy, Fieldiana Bot. **38:** 75-133. 1978.

Lagascea mollis Cav., Anal. Ci. Nat. **6:** 332, *t. 44.* 1803.
FIGURES 228g, 256.

Type: Cultivated herb grown from seeds from Cuba, at the Royal Botanical Gardens, Madrid.
Syn.: *Nocca mollis* (Cav.) Jacq., Frag. Bot. 58, *pl. 85.* 1809.

Weedy herb to 1 m, with soft gray pubescence. Leaves with petioles 0.6-2.2 cm long; blades ovate, 2.5-9 × 1-6 cm, base truncate or rounded, apex acute or acuminate, margins entire to crenate, pubescent above, silky tomentose below. Inflorescence terminal or axillary glomerules 1-1.5 cm in diameter, on stalks 1-10 cm long; floral bracts ovate-oblong to oblong, unequal, 5-7 mm long, copiously white-hirsute on both surfaces, heads numerous; involucre cylindrical, 6 × 2 mm, villous, apices linear, ciliate; corolla 5.5 mm long, white. Achenes narrowly ovoid, 3 mm long, invested by involucre, black; pappus a lacerate crown.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America and established in tropical areas of Asia and Africa.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, St. Barts, Antigua!, Saba!, St. Kitts!, Guadeloupe!, Les Saints, Martinique!, St. Vincent!, the Grenadines!, Barbados!.

COMMON NAME: Silkleaf.

LAUNAEA Cass.

Launaea Cass., *in* Cuvier, Dict. Sci. Nat. **25:** 61, 321. 1822.

Annual herbs, erect; stems glabrous or glaucous. Leaves alternate, in a basal rosette and/or cauline, sharply toothed or lobed, venation pinnate. Inflorescence paniculate, heads numerous, peduncles often branched. Heads few- to many-flowered, ligulate, cylindrical, outer phyllaries 4 or 5, ovate, shorter than the oblong inner phyllaries; receptacle naked, flat; corolla yellow, glabrous or pubescent. Achenes prismatic, or slightly flattened, apex truncate, ribbed, shiny or rugose, glabrous or puberulent; pappus sessile, bristles numerous, monomorphic or dimorphic, white.

TYPE: *Launaea bellidifolia* Cass.

A genus of about 80 species of tropical and subtropical areas. For further information see C. Jeffrey, Kew Bull. **18:** 463-477. 1966.

Launaea intybacea (Jacq.) Beauverd, Bull. Soc. Bot. Genève sér. 2, **2:** 114. 1900.
FIGURES 228h, 257.

Basionym: *Lactuca intybacea* Jacq., Ic. Pl. Rar. **1:** 16, *t. 12.* 1784.
Type: Plant cultivated at Vienna from seed from Central America, (holotype, W).
Syn.: *Brachyramphus intybaceus* (Jacq.) DC., Prodr. **7:** 117. 1838.

Herb; stems to 1.2 m tall, branched, glabrous. Basal and lower leaves obovate to oblanceolate in outline, 8-20 × 4-7 cm, runcinate-dentate or irregularly coarsely dentate, ciliate; upper leaves few and small, mostly narrowly lanceolate. Inflorescence with ascending branches, heads numerous, peduncles bracteate, outer phyllaries ovate, 2-4 mm long, margins scarious, inner linear-lanceolate to oblong, 8-12 mm long, narrow-margined, white short-pilose at apex. Florets yellow. Achenes 3.5-4 mm long, ribbed, muricate; pappus 4-5 mm long, soft, white.

GENERAL DISTRIBUTION: Nearly cosmopolitan as a weed.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Antigua!, St. Barts!, Montserrat!.

MELANTHERA Rohr

Melanthera Rohr, Skr. Naturhist.-Selsk. **2**(1): 213. 1792.

Herbs or subshrubs, rough-pubescent. Leaves opposite, petiolate, dentate. Heads globose, pedunculate at ends of branches or axillary, homogamous, discoid, involucre hemispheric, bracts 2 or 3 series, receptacle convex to conic, pales trough-shaped, eventually deciduous, florets perfect, corolla tubular, regular, lobes 5, short, anthers appendaged above, auriculate at base. Achenes short, thick, compressed tetragonous, truncate at apex; pappus of several unequal, deciduous bristles.

TYPE: *Melanthera aspera* (Jacq.) Small. For a discussion of the typification see Nicolson, Taxon **30:** 491, 492, 494. 1981.

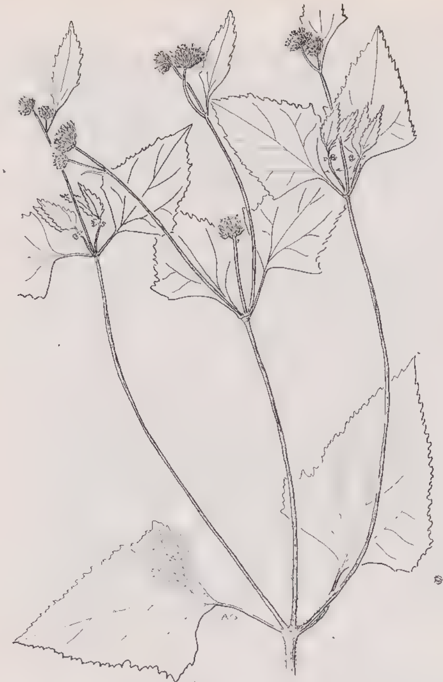
A genus of 5 species of tropical America. For further information see J. C. Parks, Rhodora **75:** 169-210. 1973.

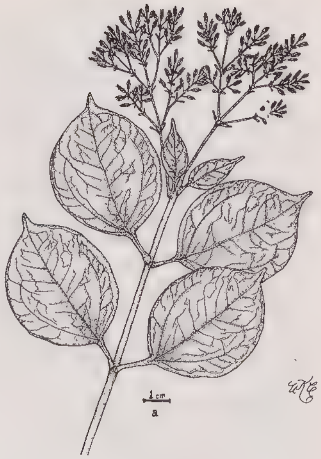
Melanthera aspera (Jacq.) Small, Bull. Torrey Bot. Club. **36:** 164. 1909.
FIGURES 228i, 258.

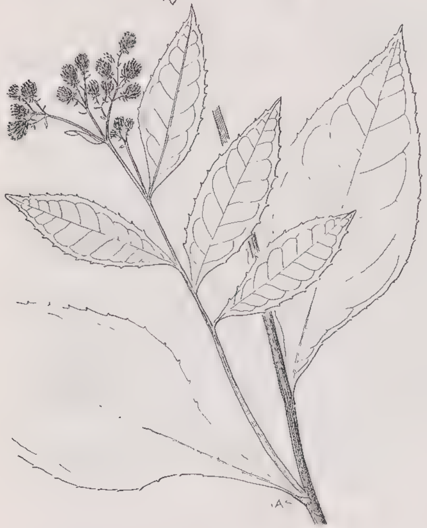
Basionym: *Calea aspera* Jacq., Collect. **2:** 290. 1788.
Type: *Jacquin* (BM).
Syn.: *Melanthera deltoidea* Michx., Fl. Bor. Amer. 107. 1803. (Type: Based on Sw., Obs. Bot. 296. 1791.)

Woody perennial, to 1 m tall; stems glabrescent except at nodes. Leaves with petioles 1.5-4.5 cm long, blades ovate to deltoid, 6-12 × 4-8 cm, base broadly acute to truncate, apex acute to acuminate, margin crenulate-crenate to serrulate, membranaceous or occasionally rugose, often 3-nerved. Heads on peduncles 2-14 cm long, which are borne singly or in groups of 2 to 4; involucre of 2 series, phyllaries imbricate, 3-5 × 3-4 mm, tips green, strigose with ascending hairs, pales oblanceolate, 4-6 × 1.5-2 mm, strongly keeled, apiculate, corolla limb spreading 0.8-1.5 mm long. Achenes obpyramidal, 2-3 mm long, apex truncate, pubescent; pappus of 2 to several caducous awns.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico, Central America.







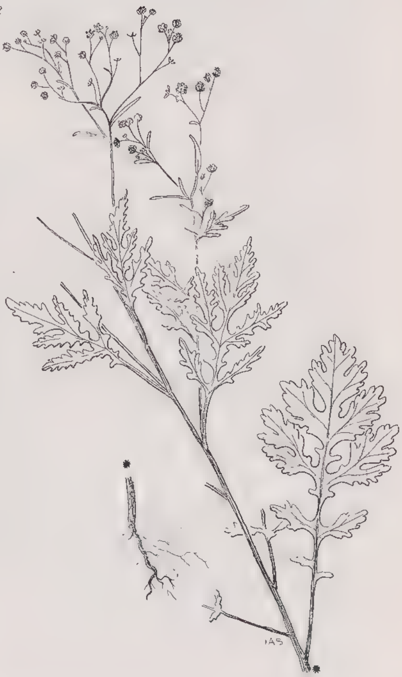


FIGURE 258 (upper left). *Melanthera aspera*: × 0.33. FIGURE 259 (upper right). *Mikania ovalis*: × 0.33. FIGURE 260 (lower left). *Neurolaena lobata*: × 0.33. FIGURE 261 (lower right). *Parthenium hysterophorus*: × 0.33.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Guadeloupe!, La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

NOTE: Parks recognized the Lesser Antillean plants as *M. aspera* var. *glabriuscula* (Ktze.) Parks, and distinguished it from the typical variety primarily on the basis of appressed ascending pubescence of the peduncle rather than with spreading hairs. This characteristic is extremely variable even on one plant in the Lesser Antilles.

The name *M. nivea* (L.) Small and its synonym *M. hastata* Michx. have been used for plants of the Lesser Antilles, but Parks did not recognize the taxon from the Antilles but considered it a plant of Southeastern United States, Mexico and Central America. Nash (Fieldiana Bot. **24:** 263, 264. 1976) considered *M. aspera* indistinguishable from *M. nivea* and listed the name in synonymy. However the character of the apiculate tips of the pales does seem a valid distinction.

MIKANIA Willd.

by W. C. Holmes

Mikania Willd., Sp. Pl. **3:** 1742. 1803. nom. cons.

Herbs or suffrutescent twining to scrambling perennials; stems terete or hexagonal. Leaves opposite, petiolate, simple, entire or toothed, palmately to subpinnately veined. Capitulescence paniculate, the heads ultimately disposed in spikes, racemes, thyrses, corymbs, or spherical glomerules. Heads homogamous, 4-flowered; phyllaries 4, subequal, linear, lanceolate, oblong to ovate, the outer pair opposite in appearance and imbricated over the inner pair; subtended by a subinvolucral bract (bracteole); receptacle small, naked, glabrous; corolla white, greenish, to pinkish, tubular, the tube slender, sometimes enlarged at the base by the enclosed nectary, the throat gradually or suddenly enlarged, turbinate, cylindric, or campanulate, corolla teeth 5, equal, linear, lance-linear, triangular, to deltate, shorter than to greatly exceeding the length of the throat; anthers basally rounded or rarely emarginate or obscurely subsagittate, the terminal appendage ovate or oblong; style branches elongate, clavellate or filiform. Pappus bristles capillary, numerous, uniseriate, slightly scabrid or barbellate, free or very slightly connate into a narrow ring at the base, white. Achenes pentagonal, prismatic or tapering downward.

TYPE: *Eupatorium scandens* L. = *Mikania scandens* (L.) Willd., name and type conserved.

Mikania consists of over 400 species of pantropical and temperate American distribution attaining its greatest diversity in eastern and southeastern Brazil. Nine species are known from the Old World. Seven species are recorded in the Lesser Antilles, with two of them being endemic. For additional information see R. M. King & H. Robinson, The genera of the Eupatoriae (Asteraceae), Missouri Bot. Gard. Monogr. Syst. Bot. **22:** 1987.

KEY TO THE SPECIES

1. Capitulescence corymbose.
  2. Heads disposed in dense, subspherical to globose glomerules 1-1.5 cm in diameter; subinvolucral bracts equal to or longer than the phyllaries. . . . *M. congesta*
  2. Heads disposed in open corymbs; subinvolucral bracts shorter than the phyllaries.
    3. Heads regularly disposed in sessile groups of threes; leaves subpinnately 5-nerved from near the base; corolla teeth 2.3-2.5 mm long, greatly exceeding the length of the throat. . . . . *M. latifolia*
    3. Heads disposed in pedunculate groups of 3 to 5 or more; leaves palmately 3-5 (-7)-nerved from the very base; corolla teeth 0.5 to less than 2 mm long, shorter than to slightly exceeding the length of the throat.
      4. Stems prominently hexagonal, tomentose to tomentellose; heads 7-10 mm long; corolla teeth linear, as long as or slightly exceeding the length of the throat. . . . . *M. cordifolia*
      4. Stems terete, striate, glabrous to glabrate to (at most) loosely pilose; heads 4-6 mm long; corolla teeth deltate, about 0.5mm long, much shorter than the throat. . . . . *M. micrantha*
1. Capitulescence paniculate.
  5. Heads about 3.8 mm long, ultimately disposed in racemes 1-1.5 mm long; mature leaves usually less than 6 cm long. . . . . *M. ovalis*
  5. Heads 8-10 mm long, ultimately disposed in thyrsoid panicles or spikelike glomerules; mature leaves normally much greater than 6 cm long.
    6. Heads sessile, disposed in dense spikelike glomerules; bases of phyllaries prominently swollen; lower leaf surfaces lacking dark-resinous-glandular punctations. . . . . *M. hookeriana*
    6. Heads pedunculate, disposed in open to dense thyrsoid panicles; bases of phyllaries not swollen; lower leaf prominently glandular-punctate with resinous glands. . . . . *M. vitifolia*

Mikania congesta DC., Prodr. **5:** 197. 1836.

Type: Puerto Rico, *Bertero s.n.* (G).
Syn.: *Mikania sieberiana* DC., Prodr. **5:** 196. 1836. (Type: Trinidad, *Sieber 225* (G, F! photo).)
Mikania scandens (L.) Willd. var. *congesta* (DC.) Baker, Mart. Fl. Bras. **6**(2): 249. 1876.
Mikania scandens (L.) Willd. forma *congesta* (DC.) B. L. Robinson, Contr. Gray Herb. **64:** 432. 1922.

Twining or creeping liana; stems terete, striate (to sometimes sulcate after drying) to angled; puberulent to pilose; internodes 5-20 cm long. Leaves with petioles 1.5-14 cm long, glabrous to puberulent, blades deltate-ovate to ovate-oblong, 2.5-14 × 2-10 cm, base cordate, apex acute to acuminate, margins entire to weakly dentate to crenate to undulate, 3 to 5(to 7)-nerved from the base, upper surface glabrous to puberulent, lower surface puberulent. Capitulescence a dense, corymbose-subglobose glomerule, ca. 1.5 cm in diameter; branchlets angled, puberulent; bracts similar to cauline leaves, smaller. Heads 4-5 mm long; sessile to very shortly pedunculate; subinvolucral bracts linear to lanceolate, as long as or exceeding the length of the phyllaries, pilose, apices acuminate. Phyllaries oval to oblong, 3-4 mm long, lightly pilose on the dorsal surface; apices rounded to a very short mucro. Corollas white, ca. 3 mm long, glandular; tube ca. 1.5 mm long; throat ca. 1.5 mm long; teeth deltate, ca. 0.5 mm long. Achenes black, 1.5-2 mm long, glandular; pappus bristles 33-37, white, ca. 3 mm long, margins scabrid.

GENERAL DISTRIBUTION: Greater Antilles (excluding Cuba), Trinidad, northern South America to Peru, Bolivia and Brazil.

DISTRIBUTION IN LESSER ANTILLES: Martinique!

NOTE: Known only from a *Plée s.n.* collection (P) which may have been from a plant under cultivation.

Mikania cordifolia (L.f.) Willd., Sp. Pl. **3:** 1746. 1803.

Basionym: *Cacalia cordifolia* L. f., Suppl. Pl. 351. 1781.
Type: Colombia, *Mutis 1818* (LINN, US).
Syn.: *Mikania mollis* H.B.K., Nov. Gen. Sp. Pl. **4:** 135. 1818, ed. quarto; **4:** 105. 1818, ed. folio. (Type: Peru, *Humboldt & Bonpland s.n.* (P!).)
Mikania suaveolens H.B.K., Nov. Gen. Sp. Pl. **4:** 135. 1818, ed. quarto; **4:** 106. 1818, ed. folio. (Type: Colombia, *Humboldt & Bonpland s.n.* (P!).)
Mikania poeppigii Spreng., Syst. Veg. Fl. Peruv. Chil. **3:** 422. 1826. (Type: Cuba, *Poeppig s.n.* (P, W).)
Mikania cissampelina DC., Prodr. **5:** 195. 1836. (Type: Santo Domingo, no collector indicated.)
Mikania gonoclada DC., Prodr. **5:** 199. 1836. (Type: Mexico, *Berlandier 137* (G-DC, L!).)
Mikania convolvulacea DC., Prodr. **5:** 199. 1836 (Type: Santo Domingo, *Poiteau s.n.* (G-DC).)
Mikania marquezianum Gomez de la Maza, Dicc. Bot. Nom. Vulg. Cub. Pue.-Riq. 54. 1889, nom. nov. for *M. mollis* Kunth, non *E. molle* H.B.K.

Herbaceous to semiwoody twiners; stems hexagonal, gray-tomentulose or tomentose, usually spirally twisted; internodes 5-20 cm long. Leaves with petioles 2-5.5 cm long, densely pilose to tomentose, opposite petioles connected by a transverse ridge with small laciniate stipulelike appendages; blades ovate, 5-10 × 3-8 cm, base cordate with wide and open sinus, apex acute to acuminate, margins subentire to undulate-dentate; 3- to 5-nerved from base; both surfaces densely pilose to tomentose, upper pale green. Capitulescence a compound corymb, terminal and lateral, ca. 6 × 7 cm; branchlets hexagonal, densely pilose to tomentose; ultimate branchlets 0.5-3 mm long, hexagonal, pilose to tomentose. Heads 7-10 mm long, subinvolucral bracts linear to narrowly lanceolate, 4-5 mm long, densely pilose, apices acuminate. Phyllaries elliptic to narrowly ovate, 6-8 mm long, substramineous, apices acute to slightly rounded. Corolla 3.5-5 mm long, white, tube 1.5-2 mm long, throat 1-1.5 mm long, glabrous, teeth linear, slightly exceeding the length of the throat, reflexed when dry. Achenes 3-4 mm long, glabrous to pubescent, lightly glandular, brown; pappus bristles white, ca. 60, barbellate, thinning toward the apices.

GENERAL DISTRIBUTION: Gulf coastal United States, throughout the wet tropical Americas to Argentina.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, St. Lucia!.

NOTE: *Mikania cordifolia* is exceedingly abundant in Central America, South America, the Greater Antilles and the Virgin Islands. Often it has a tendency to become weedy. It is one of the most often collected species and is well represented in herbaria. Its infrequency in the Lesser Antilles is difficult to understand.

Mikania hookeriana DC., Prodr. **5:** 195. 1836.

Type: Guyana, *Schomburgk 479* (G-DC, F! (photo).)
Syn.: *Mikania badieri* DC., Prodr. **5:** 194. 1836 (Type: Guadeloupe. *Badier s.n.* (G-DC).)
Mikania imrayana Griseb., Fl. Brit. W. Indian Is. 363. 1861. (Type: Dominica, *Imray s.n.* (K).)
Willoughbya badieri (DC.) Kuntze, Revis. Gen. Pl. **1:** 372. 1891.
Willoughbya imrayana (Griseb.) Kuntze, Revis. Gen. Pl. **1:** 372. 1891.
Mikania badieri DC. var. *kittsiana* Urban, Symb. Antill. **5:** 220. 1907. (Type: St. Kitts, *Britton & Cowell 385* (holotype, B; isotype, US!).)
Mikania hookeriana DC. var. *typica* Robinson, Contr. Gray Herb. **104:** 50-53. 1934.
Mikania hookeriana DC. var. *badieri* (DC.) Robinson, Contr. Gray Herb. **104:** 52. 1934.
Mikania hookeriana DC. var. *cardiophylla* Robinson, Contr. Gray Herb. **104:** 53. 1934. (Type: St. Vincent, *H.H. & G.W. Smith 1090* (holotype, GH).)
Mikania hookeriana DC. var. *kittsiana* (Urb.) Robinson, Contr. Gray Herb. **104:** 52. 1934.
Mikania hookeriana DC. var. *platyphylla* (DC.) B. L. Robinson, Contr. Gray Herb. **104:** 52. 1934.
Mikania hookeriana DC. var. *crassicaulis* Steyermark, Field. Bot. **28:** 658. 1953. (Type: Venezuela, *Steyermark 60015* (F!).)
Mikania badieri DC. forma *genuina* Stehlé Not. Syst. **15:** 71. 1954. (Type: Guadeloupe, *Duss 2815* (F!, NY!).)
Mikania badieri DC. forma *broadwayana* Stehlé Not. Syst. **15:** 71. 1954 (Type: Grenada, *Broadway 971.*)
Mikania badieri DC. forma *kittsiana* (Urb.) Stehlé, Not. Syst. **15:** 71. 1954.

Herbaceous to woody liana; stems terete, striate, often fistulose, glabrous to puberulent; internodes 5-20 cm long. Leaves with petioles to 4 cm long, thin; blades ovate to broadly ovate, 6-15 × 2-10 cm, base rounded to slightly cuneate, to rarely subcordate, apex acute to acuminate, margins entire, subpinnately 5-nerved from near the base, surfaces glabrous to puberulous. Capitulescence paniculate, ca. 12 × 12 cm, heads disposed in rather dense, short spikes or glomerules, 1-3 cm long; branchlets terete to angular puberulent. Heads sessile 8-9 mm long, subinvolucral bracts lance-linear, ca. half the length of the involucre. Phyllaries oblong, ca. 5 mm long; apices rounded, puberulent, bases swollen. Corollas white, 4-4.5 mm long, tube ca. 1.5 mm long, throat narrowly campanulate, 2-2.5 mm long, teeth ca. 0.5 mm long. Achenes 2.5-3.5 mm long, lightly glandular, faces brownish, angles lighter in color; pappus bristles ca. 40, white, 5-6 mm long, thin, barbellate.

GENERAL DISTRIBUTION: Southern Mexico throughout Central America, Trinidad, northern South America to Peru, Bolivia and Brazil.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts, Guadeloupe!, Dominica!, Martinique!, St. Vincent!.

COMMON NAMES: Liane à eau, liane tordue.

Mikania latifolia J.E. Smith, *in* Rees, Cycl. 23, *Mikania* #8. 1819.

Type: St. Lucia, collector not indicated (LINN).
Syn.: *Willoughbya latifolia* (Smith) Kuntze, Revis. Gen. Pl. **1:** 372. 1891.
Mikania latifolia forma *dominicensis* Urb., Symb. Antill. **5:** 223. 1907. (Lectotype: Dominica, *Eggers 998*, selected by Stehlé, Not. Syst. **15:** 71. 1954).
Mikania latifolia var. *dominicensis* (Urb.) Domin, Acta. Bot. Bohem. **9:** 68. 1930.

Twining liana; stems terete to subhexagonal, glabrous; internodes to 15 cm or more long. Leaves with petioles 0.5-3 cm long, thin, glabrous; blades ovate, 3-14 × 2-10 cm, base rounded to cuneate at insertion of petiole, apex acute to acuminate, margins entire; subpinnately 5-nerved from near the base, upper surface glabrous, veinlets obscure, lower surface glabrate to sparingly puberulent, especially on nerves, reticulate. Capitulescence alternately branched lateral and terminal corymbs, ca. 7 × 5 cm, heads ultimately ternately disposed, sessile; branchlets terete to angled, puberulent; bracteal leaves similar to cauline leaves, much reduced in size, puberulent. Heads 8-10 mm long, subinvolucral bracts oblanceolate, ca. 5 mm long, puberulent, apices acute to obtuse. Phyllaries lance-elliptic to elliptic-ovate, 5-7.5 mm long, puberulent, nervate; apices narrowed to a rounded tip, densely pilose, bases pilose. Corollas 4.5-6 mm long, tube 2-3.5 mm long, throat very short, teeth lance-linear, 2.3-2.5 mm long. Achenes 3.5-4 mm long; pappus bristles 48 to 50, 6-7 mm long, margins scabrid, narrowed at tips.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

NOTE: Fournet lists *Eupatorium vincaefolium* Lam. and *E. amarum* Vahl as synonyms. Both names are actually synonyms of *Mikania parviflora* (Aubl.) Karst. of northern South America.

Mikania micrantha Kunth *in* H.B.K. Nov. Gen. **4:** 134. 1818, ed. quarto; **4:** 105. 1818, ed. folio.

Type: Venezuela, *Humboldt & Bonpland s.n.* (holotype, P).
Syn.: *Willoughbya micrantha* (Kunth) Rusby, Mem. Torrey Bot. Club **4:** 211. 1895.
Mikania scandens (L.) Willd. var. *villosa* Hieron, Bot. Jahrb. Syst. **36:** 473. 1905. (Syntypes: Peru, *Jelski 600, 640, 641, 695* (B, all destroyed).)
Mikania sinuata Rusby, Bull. New York Bot. Gard. **8:** 127. 1912. (Type: Bolivia, *Williams 207* (NY!, US!).)
Mikania micrantha H.B.K. forma *hirsuta* (Hieron.) B. L. Robinson, Contr. Gray Herb. **64:** 43. 1922.
Mikania scandens sensu Urban and others, non *M. scandens* (L.) Willd.
Mikania scandens forma *genuina*, Stehlé Not. Syst. **15:** 72. 1954. (Type: Guadeloupe, *Duss 2809*.)
Mikania scandens forma *pubescens* (Muehl.) Stehlé Not. Syst. **15:** 72. 1954. (Type: Martinique, *Sieber* Suppl. no. *20* ex Stehlé.)

Herbacous to semiwoody twiners; stems terete to angled, mostly glabrate; internodes 5-20 cm long. Leaves with petioles 1-8 cm long, slender, glabrous to pilose; blades ovate, 2-13 × 3-10 cm, bases cordate, sinuses open, apices acute to acuminate, margins entire to crenate, undulate or dentate; both surfaces glabrous. Capitulescence a large corymbose panicle 3-6 × 3-10 cm, branchlets lightly winged, glabrous. Heads 4-6 cm long, subinvolucral bracts lanceolate, 2-3 mm long, glabrous, apices acute. Phyllaries ovate-oblong to rarely elliptic, 3-4 mm long, glabrous, apices acute. Corolla white to greenish, 2.5-3 mm long, lightly glandular, tube 1.5 mm long, throat campanulate, ca. 1 mm long, teeth deltoid, ca. 0.5 mm long, recurved. Achenes 1.5-2 mm long, sparingly glandular, black; pappus bristles 33-36, white, ca. 2-3 mm long.

GENERAL DISTRIBUTION: All wet tropical North America from southern Mexico through Central and South America to northern Argentina, the Bahamas, Cuba. Introduced into tropical Asia and the Pacific islands.

DISTRIBUTION IN LESSER ANTILLES: Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent! Grenada!.

COMMON NAMES: Bitter vine, wappe, liane serpent, herb à vache, locatoire, guaco, kacho.

NOTE: B. L. Robinson, Contr. Gray Herb. **104:** 57. 1934 concluded that *M. scandens* is restricted to eastern and southeastern U.S. and *Mikania micrantha* was the correct name for the plants so called from the tropics. Fosberg (Smith. Contr. Bot. **46:** 45. 1980) listed *M. micrantha* as a synonym of *M. scandens* (L.) Willd.

Mikania ovalis Griseb., Fl. Brit. W. Indian Is. 363. 1861.
FIGURES 228j, 259.

Type: Dominica, *Imray 257* (holotype, K).
Syn.: *Willoughbya ovalis* (Griseb.) Kuntze, Revis. Gen. Pl. **1:** 372. 1891.

Twining woody liana; stems terete, solid with white pith, glabrate to scruffy; internodes 2.8-11.5 cm long. Leaves with petioles 0.7-1 cm long, darkened, somewhat ribbed by extension of nerves onto the petiole; blades broadly ovate to oval, 4-6.5 × 2.5-4.8 cm, coriaceous, bases rounded to a cuneate insertion on the petiole, apices acuminate to a rounded tip; margins entire; trinerved with the lateral nerves originating at very base of blade and arching toward the apex, more or less parallel to the margin, veinlets somewhat prominent, reticulate, both surfaces glabrate but glandular, veinlets reticulate. Capitulescence a pyramidal panicle, ca. 8 × 10 cm; heads ultimately disposed in racemes, 1-1.5 cm long, bracts ovate, 1-1.5 cm long, branchlets irregularly angular, pilose-strigulose; ultimate head-bearing branchlets (peduncles) 1-1.5 mm long, strigulose; heads ca. 3.8 mm long, subinvolucral bracts lanceolate, borne at base of the branchlet, strigulose; phyllaries broadly elliptic-oblong, 2-2.4 mm long, strigulose, apices rounded, somewhat erose; corollas ca. 2.5 mm long, sparingly glandular; tube ca. 1.2 mm long, throat funnelform, ca. 0.5 mm long, teeth triangular-ovate, ca. 0.5 mm long. Achenes 1.5-2.5 mm long, glabrous except at glandular summit; pappus bristles 20-25, ca. 2 mm long, white, scabrid.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!.

COMMON NAME: Wappe-montagne.

Mikania vitifolia DC., Prodr. **5:** 202. 1836.

Type: Brazil, collector not indicated (P, G-DC).
Syn.: *Mikania gracilis* Schultz-Bip. ex Miq., Stirp. Surinam. Sel. 187. 1850. (Type: Surinam, *Hostman & Kappler 1017* (G, F!).)
Willoughbya vitifolia (DC.) Kuntze, Revis. Gen. Pl. **1:** 373. 1891.

Herbaceous to semiwoody lianas; stems terete, striate to costate, fistulose in age, puberulent to pilose at nodes; internodes to 25 cm long. Leaves with petioles to 11 cm long, glabrate to puberulent; blades ovate, often with two divergent basal lobes in the lower one-third of the blade, 20 × 17 cm, bases obtuse to truncate to subcordate or cordate, apices acute to acuminate, margins entire; palmately 5- to 7-nerved from or near the base, both surfaces glabrate to puberulent, usually dark glandular-punctate. Capitulescence an elongate bracteate lax to dense panicle, to 5 dm or more long; branchlets terete to angular, puberulent; ultimate branchlets 1-4 mm long; heads 7-9 mm long, subinvolucral bracts lanceolate, ca. 2 mm long, puberulent, glandular. Phyllaries oblong, 4.5-5 mm long, glandular, margins thin, often whitish in color, nerves prominent; apices obtuse, puberulent; corollas ca. 5 mm long, white, glandular, tube ca. 3 mm long, thin, throat funnelform to campanulate, ca. 1 mm long, teeth triangular, 1 mm long, often glandular. Achenes ca. 3.5 mm long, glandular, greenish brown; pappus bristles 35 to 40, thin, ca. 5 mm long, barbellate.

General distribution: Southern Mexico to Costa Rica, northern South America to Peru, Bolivia, Brazil, Trinidad.

Distribution in Lesser Antilles: Grenada (*Proctor 17025*).

NEUROLAENA R. Br.

Neurolaena R. Br., Trans. Linn. Soc. **12:** 120. 1818.

Stout annual herbs or shrubs. Leaves alternate, dentate or sometimes 3-lobed, venation pinnate. Inflorescence of paniculate cymules, heads few to numerous, turbinate to hemispheric, phyllaries 2- to 5-seriate, receptacle conical, pales present; ray flowers absent, yellow; disk florets regular, yellow, lobes 5; anthers appendaged. Achenes oblong, tapering to short straight podocarps; pappus of numerous persistent bristles, in 1 or 2 series.

Type: *Conyza lobata* L. = *Neurolaena lobata* (L.) R. Br.

A genus of 10 species of the American tropics. For further information see B. L. Turner, Pl. Syst. Evol. **140:** 119-139. 1982.

Neurolaena lobata (L.) Cass. *in* Cuvier, Dict. Sci. Nat. **34:** 502. 1825.
Figures 228k, 260.

Basionym: *Conyza lobata* L., Sp. Pl. **2:** 862. 1753.
Type: Mexico (BM).
Syn.: *Calea lobata* (L.) Sw., Prodr. 113. 1788.
Calea suriani Cass., *in* Cuvier, Dict. Soc. Nat. 6, suppl. 33. 1817. (Type: Antilles, *Suriana s.n.* (P-JU).)
Neurolaena suriana (Cass.) Cass. J. Phys. 1818: 29. 1818.

Annual or perennial herb, to 3 m tall. Leaves subsessile or with petioles to 2 cm; blades lanceolate, entire or 3-lobed, 15-32 × 5-12 cm, base acuminate, often tapering to stem, apex acuminate, margin dentate or serrate, scabrous above, sometimes velutinous below, with golden glands abundant. Inflorescence corymbose-paniculate, axis pubescent, heads numerous, involucre 5-6 mm high, phyllaries oblong, puberulent; pales linear, 4-5 mm long, golden-glandular at base; corolla 4 mm long, yellow. Achenes 1.5 mm long, black, smooth, short pilose above the middle; pappus bristles 4 mm long, barbellate.

General distribution: Greater Antilles, Mexico south to northern South America.

Distribution in Lesser Antilles: Antigua, Saba!, St. Eustatius, St. Kitts, Montserrat!, Guadeloupe, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada, Barbados.

Common names: Zebe à pique, herbe à pique.

PARTHENIUM L.

Parthenium L., Sp. Pl. 988. 1753.

Herbs, pubescent or canescent. Leaves alternate, pinnatifid. Inflorescence corymbose or paniculate, heads heterogamous, involucre broadly campanulate or hemispheric, phyllaries imbricated in 2 or 3 series, nearly equal; receptacle convex or conic, chaffy, pales membranaceous surrounding disk florets, ray florets 5, pistillate, fertile, ligules short, 2-toothed, disk florets perfect, sterile, corolla 5-toothed, anthers entire at base. Achenes compressed, keeled on inner face, with persistent rays at summit; pappus of 2 or 3 scales or awns.

TYPE: *Parthenium hysterophorus* L.

A genus of 15 species of temperate North America and the neotropics.

Parthenium hysterophorus L., Sp. Pl. **2:** 988. 1753. FIGURES 228l, 261.

Annual, flowering when only 10 cm tall or becoming 70 cm tall, stems ridged, strigose-pubescent or villose, usually much branched. Leaves ovate to oblong in outline, 10-20 × 5-10 cm, 1- or 2-pinnately parted into linear or lanceolate, toothed or pinnatifid segments, sparsely to densely strigose. Inflorescence loosely branched, pedicels to 1 cm long, heads numerous, 5-6 mm broad, involucre saucer-shaped, phyllaries broadly oblong, concave, often erose, strigose pubescent above; pales stramineous, ray florets few, white. Achenes obovate, 2 mm long, compressed. usually ridged abaxially, black, puberulent above; pappus of 2 quadrate broad scales, usually dispersed with 2 adherent sterile florets and their pales.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Central America, South America, introduced and established as a noxious weed in Asia.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!, St. Lucia, St. Vincent!, the Grenadines!, Grenada! , Barbados!.

COMMON NAMES: Whitehead, white top, matricaire, matnitjen.

NOTES: This plant has proved to be toxic to many people as a contact poison causing edema and swelling with strong itching.

PECTIS L.

Pectis L., Syst. Nat. ed. 10, 1221. 1759.

Branched annual or perennial herbs, aromatic with glandular dots and lines. Leaves opposite, entire, often with marginal bristles. Heads solitary or cymose, heterogamous; involucre cylindric to oblong-campanulate or turbinate, phyllaries 3 to 12, in single series, usually gibbose at base, receptacle naked; ray florets few, pistillate, fertile, ligule yellow; disk florets few, perfect, corolla yellow, limb 5-lobed, often bilabiate, anthers obtuse at base.

Achenes linear, terete, angled, pubescent or glabrate; pappus of few to many squamellae, awns, bristles, or reduced to a crown.

LECTOTYPE: *Pectis linifolia* L., vide D. J. Keil, Taxon **34:** 284. 1985.

A genus of 75 species of temperate and tropical America. For further information see P. A. Rydberg, N. Amer. Fl. **34**(3): 194-216. 1916.

KEY TO THE SPECIES

1. Heads on filiform peduncles 12-38 mm long, solitary.
  2. Pappus of 2-4 spreading subulate glabrous bristles; glands on undersides of leaves small, scattered . . . . *P. linifolia*
  2. Pappus of 2-5 erect setulose aristate scales; glands on undersides of leaves large, in 2 rows . . . . *P. linearis*
1. Heads sessile or on short peduncles 1-6 mm long, solitary or few in dichasia.
  3. Phyllaries oblong, rounded at the apex.
    4. Heads solitary, campanulate; phyllaries without reddish subapical spot; ray florets 5; disk florets 12-25; pappus of 2 or 3 bristles, 1.5-2 mm long . . . . *P. humifusa*
    4. Heads in dichasial clusters of 2 to 5, cylindrical.
      5. Phyllaries with subapical reddish spot; ray florets 3 to 5, disk florets 3-6 (-10); pappus of 1-4 bristle-tipped scales to 3.2 mm long and 1-5 short scales or bristles 0.2-0.8 mm long . . . . *P. ericifolia*
      5. Phyllaries without reddish subapical spot; ray florets 2 or 3, disk florets 3-11; pappus of lanceolate squamellae, 1.4-2 mm long . . . . *P. tenuicaulis*
  3. Phyllaries narrowly lanceolate, acute to apiculate, or linear.
    6. Leaves linear, acuminate and long apiculate, leaf glands large, in 2 rows; phyllaries 5, disk florets 5 . . . . *P. elongata*
    6. Leaves oblong-lanceolate to oblong-linear, apex acute to rounded, glands small, in several rows; phyllaries 3, disk florets 12 . . . . *P. ciliaris*

Pectis ciliaris L., Syst. nat. ed. 10, **2:** 1221. 1759.

Type: Jamaica, no collector cited.
Syn.: *Pectis martinicensis* Urban, Symb. Antill. **5:** 276. 1907. Syntypes: Martinique, *Duss 202, 933.*

Annual herb with spreading branches 5-45 cm long. Leaves linear-oblong, 2.0-3.5 × 0.2-0.4 cm, apex mucronate or short aristate, glands small, in several rows, with 3 or 4 marginal bristles. Heads solitary, sessile or subsessile, phyllaries 5, linear-oblong, obtuse or rounded, 6 mm long, ray florets 3 to 5, yellow, disk florets 12. Achenes 3 mm long, hirtellous on angles; pappus of 4 or 5 aristate scales.

GENERAL DISTRIBUTION: Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Martinique.

Pectis elongata Kunth *in* H.B.K. Nov. Gen. Sp. **4:** 262. 1818, ed quarto; **4:** 206. 1818, ed. folio.

Type: Colombia, *Humboldt & Bonpland s.n.* (holotype, P). IDC 6209: **111:** II 4.
Syn.: *Pectis floribunda* A. Rich. *in* Sagra, Hist. Cub. **12:** 36. 1864. Type: Cuba, *Sagra 19* (holotype, P).
Pectis elongata Kunth var. *floribunda* (Rich.) Keil, Ann. Missouri Bot. Gard. **62:** 1229. 1975.

Herbs erect, 5-50 cm. tall. Leaves linear, 2-3.5 × 0.1-0.2 cm, base narrowed, apex acuminate, glands in marginal row with others scattered, marginal bristles scattered. Inflorescence cymose clusters, peduncle to 0.5 cm, involucre cylindrical, phyllaries 5, linear, 5 mm long, with few elongate glands; ray florets 5, yellow, disc florets 5. Achenes linear, 2 mm long, black, pilose; pappus of 8 bristles, 3-4 mm long, barbellate.

GENERAL DISTRIBUTION: Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Dominica!, Martinique!, St. Lucia!.

COMMON NAMES: Citronelle, herbe citron, sitronnèl.

NOTE: Specimens from St. Lucia often show a compact form with seemingly fasciated branches and smaller leaves. One specimen *Sturrock 78* (A) has such a habit with a few normally elongated shoots.

Pectis ericifolia Keil, Brittonia **36:** 74. 1984.

Type: Barbuda, *Keil 16561* (holotype, UC).

Annual herb, branched, mat-forming, stems 4-25 cm long, hirtellous. Leaves linear-oblanceolate, 8-20 × 2-4 mm, base narrowed, apex rounded, mucronulate, glabrous with 3 to 5 pairs of bristles, punctate with scattered glands. Heads in 3- to 5-flowered cymes, sessile or on peduncles to 5 mm, involucre cylindrical, deciduous at maturity, phyllaries 3 to 5 oblanceolate to obovate, 5.6-6.6 mm long, margins scarious; ray florets 3 to 5, bright yellow; disk florets 3 to 6; ray achenes 2.9-3.9 mm long, black, puberulent; disk achenes 2.8-3.2 mm long, puberulent; ray pappus of low scales to 0.8 mm long, disk pappus with 0 to 4 bristle-tipped scales to 3.2 mm long and 1 to 5 minute scales.

GENERAL DISTRIBUTION: Known only from Barbuda.

Pectis humifusa Sw., Prodr. 114. 1788.

Lectotype: St. Croix, Swartz s.n. (BM) ex Keil 1986.
Syn.: *Pectis serpyllifolia* Less., Linnaea **6:** 717. 1831. (Lectotype: Puerto Rico, *Wydler 208* (G-DC) ex Keil 1986.
Pectis sieberi Less. Linnaea **6:** 717. 1831. (Type: Martinique, *Sieber 24* (holotype, CW).
Pectis humifusa Sw. forma *pulvinaris* Domin, Acta Bot. Bohem. **9:** 80. 1930. (Type: Barbados, Tobago, no specimens cited.).

Diffuse annual or perennial, branched from the base, stems prostrate or decumbent and spreading, 5-40 cm long, short-pilose along 2 lines. Leaves sessile or subsessile, oblanceolate to obovate, 3-12 × 2-4 mm, base tapered, apex rounded or obtuse, sometimes apiculate, with 2 to 6 pairs of bristles near base, scabrous ciliate on margins, glands numerous, scattered. Heads solitary, sessile or subsessile at ends of branches, peduncles to 5 mm long; involucre campanulate, 5-6 mm high, phyllaries 5, elliptic to oval, obtuse, strongly keeled, with several round glands; ray florets 5, ligules 3-5 mm long, disk florets 12 to 25, yellow. Achenes 2.5-3 mm long, sparsely pubescent; ray pappus of 2 or 3 scabrid bristle-tipped scales to 2.5 mm long and 2 to 10 shorter lacerate scales or slender bristles; pappus of disc florets of 4 to 12 scabrid bristles or scales and ca. 12 shorter scales or bristles.

GENERAL DISTRIBUTION: Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Les Saintes!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAME: Petite marguerite.

Pectis linearis Llave, Reg. Trin. **1:** 451.1832.

Lectotype: Mexico, *Mairet s.n.* G-DC.
Syn.: *Pectis febrifuga* H. van Hall, Ann. Hort. & Bot. **4:** 33. 1861. Type: Curaçao.

Erect annual, diffusely branched, to 20 cm tall, scabrous puberulent on angles of stem. Leaves linear or lanceolate-linear, 0.5-2 cm × 0.5-2 mm, base narrowed, apex acute and/or mucronate. Heads solitary in forks of branches, peduncles 1-3.5 cm long, phyllaries 5, oblong, acuminate or apiculate, 4-4.5 mm long; ray florets 5, ligules oblong, yellow; disk florets 6 to 13. Achenes 2-2.5 mm long, short pilose on angles, squamellae of disk florets 5, lanceolate and lacerate at the base ending in awn shorter than corolla; ray florets with 2 squamellae or bristles or with an additional third much shorter squamella.

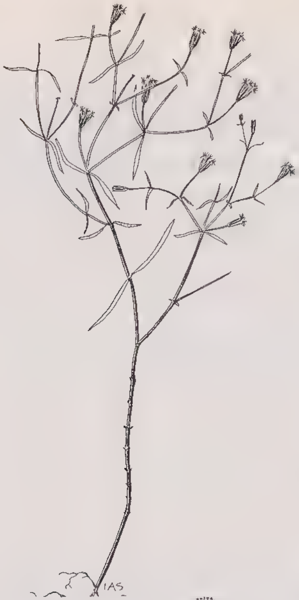
GENERAL DISTRIBUTION: Jamaica, Puerto Rico, Central America, northern South America.

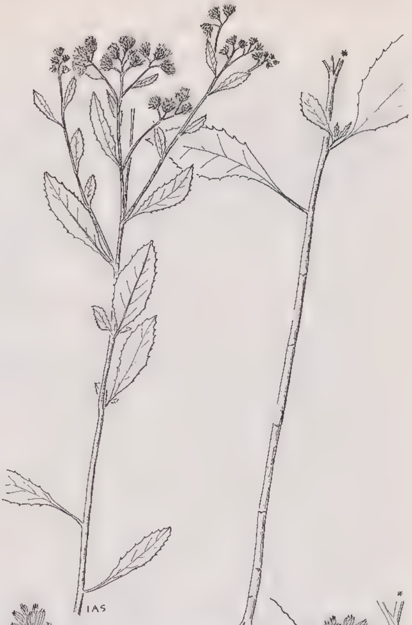
DISTRIBUTION IN LESSER ANTILLES: St. Barts!, Saba!,St. Kitts!, Guadeloupe!, Martinique!.

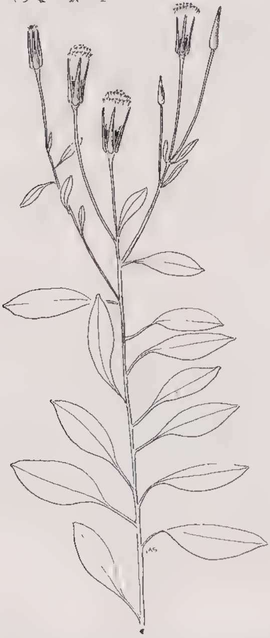
NOTE: "Pectis linearis Llave 1832, not Willd. 1831" was considered undeterminable in N. Amer. Fl. (**34**(3): 216. 1916). Keil (pers. comm.) did find specimens which could be determined and he has chosen a lectotype. Further, he stated that "P. linearis Willd." was a nomen nudum and published in synonymy.

Pectis linifolia L., Syst. Nat. ed. 10, 1221. 1759. FIGURES 228m, 262.

Type: Jamaica.
Syn.: *Pectis punctata* Jacq., Enum. Pl. **28:** 1760. Type: Plum. Pl. Amer. *t. 86, f. 1.*







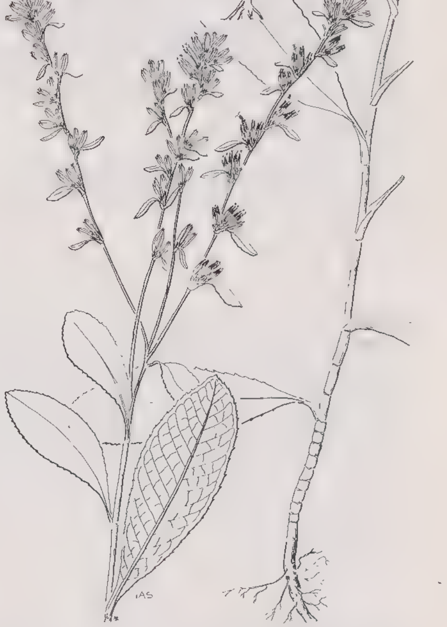


FIGURE 262 (upper left). *Pectis linifolia*: × 0.35. FIGURE 263 (upper right). *Pluchea odorata*: × 0.35. FIGURE 264 (lower left). *Porophyllum ruderale*: × 0.35. FIGURE 265 (lower right). *Pseudelephantopus spicatus*: × 0.35.

Annual herbs, to 50 cm tall, stems sparsely dichotomous. Leaves linear, 2-6 × 0.2-0.5 cm, ultimate base flaring at stem, apex acuminate or apiculate, with few pairs of bristles near base. Peduncles 1-3 cm long, heads terminal and in forks of branches, involucre 5-6 mm tall, phyllaries 4 or 5, linear, obtuse, with black linear submarginal glands; ray florets 4 or 5; disk florets 2 to 5. Achenes 4-7 mm long, puberulent or glabrate; pappus of 2 or 3 divaricate, stout-subulate-smooth awns 2-2.5 mm long.

GENERAL DISTRIBUTION: Southern United States, Greater Antilles, Central America.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts, St. Kitts!, Guadeloupe!, Les Saintes!, Dominica, Martinique!, St. Vincent!, the Grenadines!, Grenada!.

COMMON NAMES: Lin, lin bâtard.

Pectis tenuicaulis Urban, Symb. Antill. **1:** 468. 1900.

Type: Puerto Rico, syntypes cited.

Annual, branches prostrate, to 15 cm long. Leaves oblong-lanceolate, to oblong-linear, 5-15 × 1.5-3.5 mm, with 3 to 5 pairs of bristles near base, apex obtuse, mucronate or apiculate, glands few, scattered. Heads 2 to 5 in clusters at ends of branches, sessile or peduncles to 2 mm long, phyllaries 3, 4-5 mm long, glands few near apex; ray florets 3, disk florets 3 to 11. Achenes to 3.2 mm long, short pilose, squamellae of disk florets 3 to 5, of ray florets 2, unequal.

GENERAL DISTRIBUTION: Puerto Rico.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Martinique.

PLUCHEA Cassini

Pluchea Cass., Bull. Soc. Philom. 1817: 31. 1817.

Herbs or shrubs, pubescent or glabrous. Leaves alternate, dentate, venation pinnate. Inflorescence terminal, corymbose cymes, involucre ovoid, campanulate, or subhemispheric, phyllaries imbricated in several series; receptacle flat, naked, flowers discoid, heterogamous, outer flowers pistillate, corolla filiform 3-cleft or dentate at apex, inner florets perfect, corolla 5-cleft, anthers sagittate at base, sterile. Achenes cylindrical or prismatic, 4- or 5-angled; pappus 1 series of capillary scabrous bristles.

TYPE: *Conyza marilandica* Michaux = *Pluchea odorata* (L.) Cass.

A genus of 40 species of tropical areas.

NOTE: The record of *Pluchea quitoc* DC. (= *Pluchea sagittalis* (Lam.) Cabrera) from St. Vincent (Cheesman, Fl. Trin. Tob. **2**(2): 82. 1940) is apparently based on an *Anderson s.n.* collection (K) of a plant cultivated in the St. Vincent Botanic Garden and introduced by Anderson from Trinidad.

KEY TO THE SPECIES

Annual herb, leaves shallowly serrate-dentate, young branches gray-buff pubescent; heads hemispherical . . . . *P. odorata*

Shrub, leaves entire or nearly so, young branches rusty-tomentose, pale; heads campanulate . . . . *P. carolinensis*

Pluchea carolinensis (Jacq.) G. Don *in* Sweet, Hort. Brit. ed. 3, 350. 1839.

Basionym: *Conyza carolinensis* Jacq., Collect. **2:** 271. 1789.
Type: Jacq., Icon. Pl. Rar. 3, *t. 585.* 1788.
Syn.: *Pluchea symphytifolia* sensu Gillis, non *Conyza symphytifolia* P. Miller.
Pluchea odorata authors, non *P. odorata* (L.) Cass.

Branched shrub to 3 m tall, upper stems rusty tomentose with arachnoid hairs. Leaves with petioles 1-2.5 cm long, blades ovate or elliptic, 6-20 × 2.5-8 cm, base rounded and cuneate, apex obtuse or subacute, margin entire or remotely denticulate, both surfaces covered with dense pubescence hiding glandular hairs. Inflorescence terminal, broadly rounded corymbose panicles, 10-25 cm high, 15-40 cm broad, heads many, on peduncles 5-10 mm long, campanulate to depressed-globose, 6-7 mm high, involucre soon spreading, phyllaries in 2 or 3 series, outer broader, copiously long-pilose pubescent; flowers very numerous, over 500, perfect ones 15 to 25, corolla pink to purple. Achenes narrowly ellipsoid, 0.6-0.8 mm long, brown, sparsely strigose; pappus a single row of 10 to 15 bristles, 4-6 mm long, yellowish-white.

GENERAL DISTRIBUTION: Southern Florida, Greater Antilles, Mexico, Central America, northern S. America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin!, Barbuda!, Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Marie Galante!, Martinique!, Dominica!, St. Lucia!, St. Vincent!.

COMMON NAMES: Wild tobacco, cure-for-all, sweet scent, cattletongue, tabat-diable, tabat djab, zówèy mouten.

NOTES: Gillis (Taxon **26:** 587-591. 1977) discovered a specimen (BM) annotated with the name *Conyza symphytifolia* P. Miller. This he concluded was an earlier name for *Pluchea carolinensis* and he made the new combination. Unfortunately the specimen does not agree with the original description of a plant with scabrous leaves and yellow flowers. The typification must be rejected. Miller's name can not be applied at the present time.

Pluchea odorata (L.) Cass., *in* Cuvier, Dict. Sci. Nat. **42:** 3. 1826.
FIGURES 228n, 263.

Basionym: *Conyza odorata* L., Syst. Nat. ed. 10, 1213. 1759.
Type: Not determined.
Syn.: *Conyza purpurascens* Sw., Prodr. 112. 1788. (Lectotype: Jamaica, Sloane, Voy. **2:** *t. 152, f. 1.* (Typotype, Herb. Sloane, BM).)
Pluchea purpurascens (Sw.) DC. in DC. Prodr. **5:** 452. 1836.

Annual herb to 1 m tall, stems with brownish pubescence of appressed hairs. Leaves sessile, or lower short-petiolate, ovate to ovate-lanceolate, to elliptic, 7-12 × 1.5-5 cm, base rounded to cuneate, tapering to obtuse tip, serrate-dentate, or entire, short-pubescent and resinous-dotted. Inflorescence terminal cymose-corymbose, flat-topped or rounded, heads sessile or on peduncles 5-12 mm, heads nearly hemispheric or depressed-globose, 4.5-7 mm high, involucre broadly campanulate, phyllaries in several series, pilose and glandular pubescent, flowers 200 to 300, perfect ones 9 to 12, corolla pink to lavender. Achenes dark brown, linear or clavate, 0.8-1.2 mm long, strigose, angles pale, more or less glandular, slightly contracted at apex; pappus of 15 to 20 yellowish-white barbellate bristles, 3-4 mm long.

General distribution: Southern United States, Mexico, Central America, northern South America.

Distribution in Lesser Antilles: Guadeloupe!, Marie Galante!, St. Lucia!.

Common names: Sweetscent, sauge rouge, tabak djab, wild tobacco.

POROPHYLLUM Guett.

Porophyllum Guettard, Hist. Acad. Sci. Paris Mem. 377. 1754.

Annual or perennial herbs. Leaves alternate or opposite, blades usually sinuate and slender-petioled, entire, with pellucid glands along margin and scattered. Heads discoid, involucre cylindric or campanulate, phyllaries 5 to 9, linear, oblong or obovate, with 2 dorsal rows of glands, receptacle naked, flowers all perfect and fertile, corolla actinomorphic or slightly bilabiate, anthers rounded at base. Achenes narrow, tapering, scabrous or with hispidulous bristles.

Type: *Cacalia porophyllum* L. = *Porophyllum ruderale* (Jacq.) Cass.

A genus of 28 species of tropical America. For further information see R. R. Johnson, Univ. Kan. Sci. Bull. **48:** 225-267. 1969. The reference for the generic name is derived from Dandy, Reg. Veg. **51:** 74. 1967.

Porophyllum ruderale (Jacq.) Cass., *in* Cuvier, Dict. Sci. Nat. **43:** 56. 1826.
Figures 228o, 264.

Basionym: *Kleinia ruderalis* Jacq., Enum. Pl. Carib. 28. 1760; Select. Stirp. Amer. Hist. 215, *t. 127.* 1763.
Type: loc. cit. *t. 127*, "Domingo, Martinique."
Syn.: *Cacalia porophyllum* L., Sp. Pl. **2:** 834. 1753. (Type: Not selected.)
Porophyllum ellipticum Cass., *in* Cuvier, Dict. Sci. Nat. **43:** 56. 1826. (Type: New name for *Cacalis porophyllum* L.)
Porophyllum porophyllum (L.) Ktze., Revis. Gen. Pl. **3:** 168. 1898.
Porophyllum ellipticum Cass. var. *genuinum* Urban, Symb. Antill. **1:** 467. 1900.
Porophyllum ellipticum Cass. var. *ruderale* (Jacq.) Urb., Symb. Antill. **1:** 468. 1900.

Porophyllum ruderale (Jacq.) Cass. var. *ellipticum* (Cass.) B. L. Robinson, Proc. Amer. Acad. **49:** 509. 1913.

Porophyllum ellipticum (Cass.) var. *ellipticum* (Cass.) Stehlé, Adansonia n.s. **3:** 183. 1963.

Erect annual to 1 m tall. Leaves with petioles 1-2 cm long; blades elliptic, 2-6 × 1-2.5 cm, base acute, apex obtuse and mucronate or acute, margin entire or sinuate, elongate glands scattered. Heads solitary at ends of branches, pointed in bud, peduncles 3-5 cm long, clavate, involucre cylindrical, 2 cm high, phyllaries 5, linear, acuminate, with 2 rows of elongate glands, corolla 12-14 mm long, filiform, olive-green to purple, lobes lanceolate. Achenes 8 mm long, tapering both ends, hispidulous; pappus straw-colored or yellowish, 1 cm long.

GENERAL DISTRIBUTION: Greater Antilles, Central America, South America.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua!, Saba!, St. Eustatius, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!.

PSEUDELEPHANTOPUS Rohr.

Pseudelephantopus Rohr, Skr. Naturhist.-Selsk. **2:** 214. 1792 (orth. cons.)

Perennial herbs, stems branched. Leaves cauline, alternate, pinnately veined. Inflorescences terminal, racemose-spicate, heads 3 or 4 in clusters with leaflike bracts, phyllaries 8, in 4 decussate pairs; receptacle naked, convex. Florets 3-6, bisexual, zygomorphic, anthers sagittate at base, apex appendaged. Achenes obovoid, slightly compressed, 10-ribbed; pappus 1-seriate, of 5 to 10 unequal bristles, twice geniculate or spiraled.

TYPE: *Elephantopus spicatus* Juss. = *Pseudelephantopus spicatus* (Juss.) Baker.

A genus of 2 species of tropical America. In a recent treatment J. A. Clonts & S. McDaniel (N. Amer. Fl. n.s. 2, **10:** 196-202. 1978) considered *Pseudelephantopus* a synonym of *Elephantopus*, making one combination in so doing. They supplied no discussion. D'Arcy (Ann. Missouri Bot. Gard. **62:** 879. 1975) pointed out the differences in inflorescence structure and the distinction in chromosome number.

For a discussion of the correct spelling of the generic name see D. Nicolson, Taxon **30:** 489-495. 1981.

KEY TO THE SPECIES

Principal bristles doubly folded; plants without stolons . . . . *P. spicatus*
Principal bristles curled or spiralled at ends; plants stoloniferous . . . . . *P. spiralis*

Pseudelephantopus spicatus (Aubl.) C. F. Baker, Trans. Acad. Sci. St. Louis **12:** 45, 54, 56. 1902. Figures 228p, 265.

Basionym: *Elephantopus spicatus* Juss. ex Aublet, Hist. Pl. Guiane **2:** 808. 1775.
Type: Sloane, Voy. **1:** 256, *pl. 150, f. 3, 4.* 1707.
Syn.: *Distreptus spicatus* (Gaertn.) Cass., *in* Cuvier, Dict. Sci. Nat. **13:** 367. 1819.

Erect herb to 1 m tall, pilose, hirsute or glabrous. Leaves cauline, lanceolate, oblanceolate or elliptic, 3-16 × 1-5 cm, base attenuate and clasping, apex acute or obtuse, margins crenate, serrate or entire, pilose or hirsute beneath or glabrate-punctate-glandular. Inflorescence spicate or racemose-spicate, glomerules to 0.6 cm wide, bracts 1 or 2, lanceolate, 1.5-2.3 × 0.2-0.3 cm, pilose, phyllaries lanceolate, 9-12 mm long, sharply acuminate, corolla 7-10 mm long, white to lavender. Achenes 4-8 mm long, pilose; pappus of 4 to 10 setae in 2 series, 2 twice-folded, 5-7 mm long, the others short and straight.

General distribution: Greater Antilles, Mexico, Central America south to Chile.

Distribution in Lesser Antilles: St. Martin!, Saba!, Antigua, St. Eustatius, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines, Grenada!, Barbados.

Pseudelephantopus spiralis (Less.) Cronq., Madroño **20:** 255. 1970.

Basionym: *Distreptus spiralis* Less., Linnaea **6:** 690. 1831.
Type: Jamaica (UPS).
Syn.: *Spirochaeta funckii* Turcz., Bull. Soc. Nat. Mosc. **24:** 167. 1851. (Type: Colombia, *Funck 358.*)
Pseudo-Elephantopus funckii (Turcz.) Philipson, Jour. Bot. **76:** 301. 1938.
Elephantopus spiralis (Less.) Clonts, N. Amer. Fl. n.s. 2, **10:** 198. 1978.

Erect herbs to 70 cm tall, stoloniferous. Cauline leaves lanceolate, oblanceolate or elliptic, 3-15 × 1.2-5 cm, base attenuate, clasping, apex acute to obtuse, margin crenate, pilose. Inflorescence racemose-spicate, glomerules to 0.5 cm wide, bracts 1 or 2, lanceolate or oblanceolate, 0.5-2 × 0.2-0.6 cm, apiculate, phyllaries lanceolate, 5-7 mm long, membranaceous at margins, long hirsute and/or ciliate; corolla 6-7.5 mm long, rose to lavender or white. Achenes 2.5-3 mm long, pilose; pappus of 4-6 setae strongly curled or twisted above the middle, dilated at the base, the others straight and short.

General distribution: Costa Rica south to northern Argentina.

Distribution in Lesser Antilles: St. Lucia!, St. Vincent!, Grenada!.

Common name: Tét nèg.

PTEROCAULON Elliot

Pterocaulon Elliot, Bot. S. Car. & Ga. **2:** 323. 1824.

Erect herbs, arachnoid-tomentose. Leaves alternate, decurrent, pinnately veined. Flowers glomerate in elongated spikes, discoid, heterogamous; involucre ovoid or campanulate, phyllaries in several series, inner one mostly caducous; receptacle naked, sometimes pubescent; marginal flowers perfect, fertile, corolla filiform, central florets neutral, corolla tubular, anthers caudate-sagittate. Achenes angled or compressed, 4- or 5-ribbed; pappus of capillary bristles.

TYPE: *Pterocaulon pycnostachyum* (Michx.) Ell.

A genus of 18 species of the American tropics, southeastern Asia and Australia.

Pterocaulon alopecuroides (Lam.) DC., Prodr. **5:** 454. 1836.
FIGURES 228q, 266.

Basionym: *Conyza alopecuroides* Lam., Encycl. **2:** 93. 1786.
Lectotype: Martinique "L.B." (P).

Erect herb, to 1 m tall, stem broadly winged by decurrent leaf bases. Basal leaves obovate, to 6 × 4 cm, stem leaves oblong to oblong-lanceolate, or oblanceolate, 4-9 × 1-4 cm, base decurrent, apex acute or obtuse, margin crenate-serrulate. Inflorescence dense compound thyrsus 4-20 cm, simple, phyllaries linear-lanceolate, 5 mm long, long-acuminate, densely white arachnoid-tomentose, outer involucre bracts shorter. Florets white. Achene prismatic, 1 mm long, angled, short pilose; pappus 6-8 mm long, white.

GENERAL DISTRIBUTION: Greater Antilles, South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Redonda!, Guadeloupe!, Les Saintes!, Martinique!.

NOTE: D'Arcy (Ann. Missouri Bot. Gard. **62:** 1048. 1975) accepted the name *P. virgatum* (L.) DC. listing *P. alopecuroides* (Lam.) DC. as a synonym. He commented, "the name *Pterocaulon virgatum* has often been restricted to plants having a slender elongate spike of interrupted heads. While strikingly different on the herbarium sheet, such plants are not specifically distinct." I do not agree. The Greater Antillean collections support a distinction of the species, and the Lesser Antillean specimens are few and seemingly chance introductions.

ROLANDRA Rottb.

Rolandra Rottb., Coll. Soc. Med. Havn. **2:** 256. 1775.

Herbs, leaves alternate, white tomentose beneath, pinnately veined. Heads 1-flowered, each subtended by scarious bracts, these spicate on a pilose axis and aggregated into dense axillary clusters; involucre of 2 complicate scales,

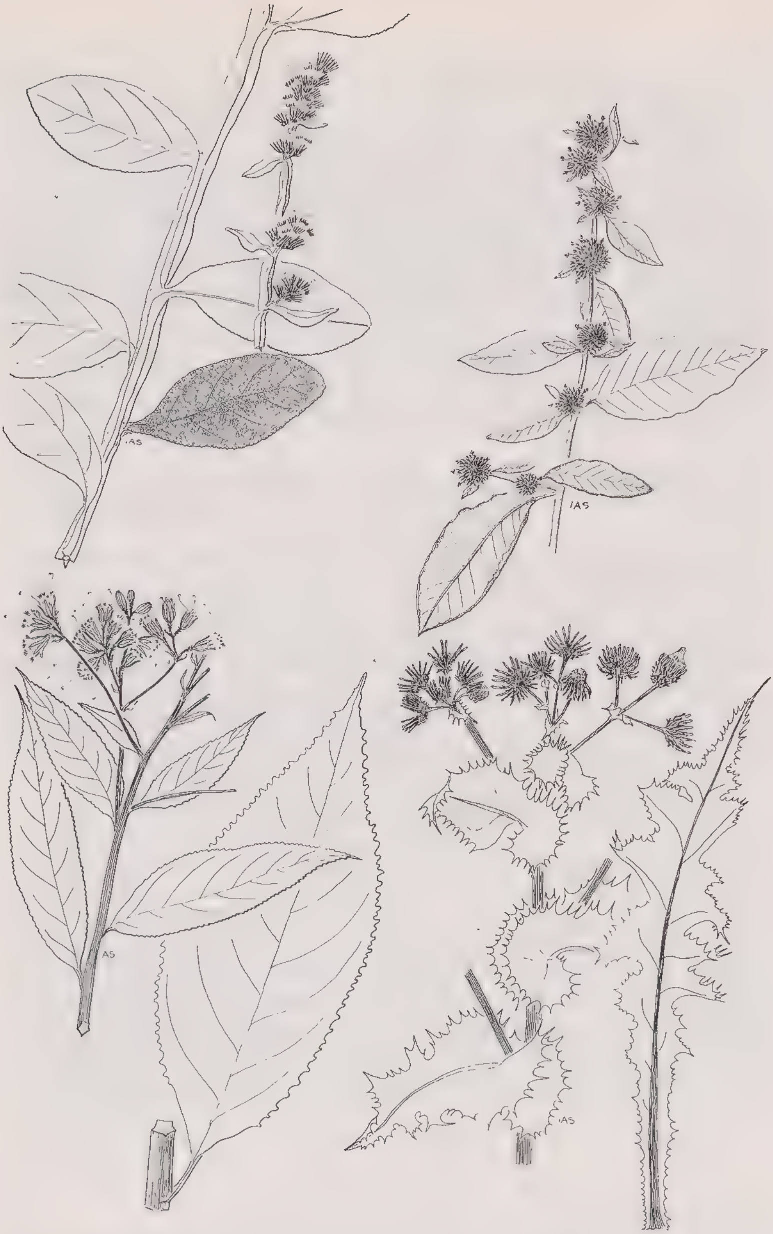


FIGURE 266 (upper left). *Pterocaulon alopecuroides*: × 0.3. FIGURE 267 (upper right). *Rolandra fruticosa*: × 0.3. FIGURE 268 (lower left). *Senecio lucidus*: × 0.3. FIGURE 269 (lower right). *Sonchus asper*: × 0.3.

outer larger and spinose or aristate-tipped, and enclosing inner; corolla tubular, regularly 4-lobed, anthers sagittate. Achenes 4- or 5-angled; pappus short irregularly toothed crown.

TYPE: *Echinops fruticosa* L. = *Rolandra fruticosa* (L.) Ktze.

A monospecific genus of tropical America, introduced into tropical Asia.

Rolandra fruticosa (L.) Kuntze, Revis. Gen. Pl. **1:** 360. 1891.
FIGURES 228r, 267.

Basionym: *Echinops fruticosa* L., Sp. Pl. **2:** 815. 1753.
Type: Tropical America, Plum. Amer. *t. 123, f. 1.*
Syn.: *Rolandra argentea* Rottb., Coll. Soc. Med. Havn. **2:** 258. 1775. (Type: Not determined.)

Erect herb to 1 m tall, leaves subsessile, blades oblong to elliptic or elliptic-lanceolate, 3-14 × 1-5 cm, base narrowed to petiole, apex acute or short acuminate, margin entire or undulate, scabrous above, white arachnoid-tomentose or pilose below. Inflorescence terminal and in upper axils, hemispheric to subglobose, 10-15 mm long, involucre 4-5 mm long, outer phyllary ovate, pubescent to glabrate, usually glandular, tipped with short spine, ciliate inner phyllary enclosed; flowers tubular, 3- or 4-toothed, white. Achenes 2-3 mm long, angular, truncate, glabrous but glandular; pappus 0.5-1 mm long, numerous unequal lacerate segments.

GENERAL DISTRIBUTION: Hispaniola, Puerto Rico, Costa Rica south to northern South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, Grenada!, Barbados!.

COMMON NAMES: Tête negresse, herbe argentée.

SENECIO L.

Senecio L., Sp. Pl. **2:** 866. 1753.

Herbs, shrubs or vines; leaves alternate, entire, lobed or pinnatifid, pinnately veined. Heads solitary or corymbose, heterogamous, ray florets pistillate, disk florets perfect, involucre cylindrical to hemispheric, phyllaries in 1 series, receptacle flat, naked, pitted or fringed, corolla of ray flower ligulate, corolla of disk florets tubular, anthers obtuse or sagittate. Achenes subterete, to 10-ribbed; pappus of numerous smooth or rough bristles.

TYPE: *Senecio vulgaris* L.

In a broad sense a cosmopolitan genus of ca. 1500 species. Sometimes divided.

NOTE: *Senecio vulgaris* L., a yellow-flowered herbaceous adventive, was reported by Fournet as present near St. Pierre, Martinique. The record is not supported by collections. *Senecio confusus* Britten (= *Pseudogynoxys* *chenopodioides* (Kunth) Cabrera (Brittonia **7:** 54. 1950) is cultivated on several islands and may escape. This is an orange-flowered vine and an attractive ornamental.

Senecio lucidus (Sw.) DC., Prodr. **6:** 411. 1838. FIGURES 229a, 268.

Basionym: *Cineraria lucida* Sw., Fl. Ind. Occ. **3:** 1360. 1806.
Type: Martinique. *Fahlberg s.n.*

Shrub with weak arching or trailing stems to 3 m tall, stems strongly ridged, glabrous. Lower leaves petiolate, upper leaves often sessile, blades elliptic to lanceolate, 6-22 × 2-8.5 cm, margin denticulate, with callose teeth, fleshy, glabrous. Inflorescence terminal, much-branched, corymbose-paniculate, involucre 1-seriate, of 6 lanceolate phyllaries, 8 mm long, white-margined, glabrous; receptacle flat, naked; florets yellow to orange, ray florets 3 or 4, disk florets 6 or 8. Achenes elongate, terete, 5-6 mm long; pappus of many silky bristles 6 mm long.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!.

COMMON NAME: Herbe à pique bâtard.

SONCHUS L.

Sonchus L., Sp. Pl. **2:** 973. 1753.

Erect herbs, stems hollow, plants with milky latex. Leaves alternate, sessile, often amplexicaul and auriculate. Heads in terminal corymbs or panicles, pedunculate, glabrous or with long-stalked glands; involucre campanulate or ovoid, later thickened and dilated at base, phyllaries imbricate, many seriate, herbaceous with membranaceous margins; receptacle flat, naked; corolla yellow; anthers with filiform auricles at base. Achenes narrowly oblong or obovate, narrowed at both ends, laterally compressed, 10- to 20-ribbed, brown, glabrous; pappus hairs numerous, more or less connate at base.

LECTOTYPE: *Sonchus oleraceus* L. emend. Gouan.

A genus of ca. 29 species, largely Eurasian, weedy elsewhere. For further information see L. Boulos, Bot. Not. **125:** 287-305. 1972; **126:** 155-196. 1973.

KEY TO THE SPECIES

Auricles rounded, leaves strongly spinose-toothed; achenes ribbed, smooth between ribs . . . . *S. asper*
Auricles acute; leaves sharply toothed; achenes striate, finely wrinkled between the ribs . . . . *S. oleraceus*

Sonchus asper (L.) Hill, Herb. Brit. **1:** 47. 1769. FIGURES 229b, 269.

Basionym: *Sonchus oleraceus asper* L., Sp. Pl. **2:** 794. 1753.
Lectotype: Europe, LINN 949.8.

Annual herb to 1 m tall; leaves undivided, lobed or sometimes pinnatifid, spinulose-dentate, lower and basal leaves obovate or spatulate, petioled; upper leaves oblong or lanceolate, clasping by auricled base; heads 25 mm broad or less, flowers pale yellow. Achenes obovate, 3 × 1 mm, flattened, margins serrulate, ridged, smooth between ribs, brown; pappus of numerous silky barbellate hairs, 5-6 mm long, white.

GENERAL DISTRIBUTION: Native of Europe but now a subcosmopolitan weed.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Martinique!, Barbados.

Sonchus oleraceus L., Sp. Pl. **2:** 794. 1753 emend. Gouan.

Lectotype: Europe, LINN 949.6.

Herbs to 1 m tall, stems glabrous. Leaves lyrate, often with a deltoid upper portion, in outline oblong or oblong-obovate, 5-26 × 1.5-11 cm, base auriculate, acute, irregularly sharply dentate, chartaceous, glabrous. Inflorescence paniculate-corymbose, often with stalked glands above, peduncles 0.5-6 cm long, involucre 9-11 mm long, white floccose at base, phyllaries lanceolate, glabrous or with sparse glands; corolla 10-12 mm long, lower part filiform, upper part ligulate, yellow. Achenes narrowly obovate, 3 mm long, ribs with tubercles, transversely wrinkled between; pappus 6-7 mm long, of many capillary hairs.

GENERAL DISTRIBUTION: A cosmopolitan weed.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin, St. Barts, Antigua!, Saba!, St. Eustatius!, Montserrat!, Guadeloupe!, Dominica, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Sow thistle, laitue, bouton blanc, herbe à lapin.

SPILANTHES Jacq.

Spilanthes Jacq., Enum. Pl. Carib. 8. 1760.

Prostrate to erect perennial herbs, stems branched, glabrous to pubescent. Leaves sessile to petiolate, linear to oblanceolate, entire to sinuate, triplinerved. Heads solitary, terminal, pedunculate, ovoid, phyllaries 8 to 16 in 1 or 2 series; receptacle high-conic, rounded to acuminate, pales enfolding the achenes; flowers discoid, numerous, perfect, corolla white, lobes 5, triangular, anthers with short-acuminate tail. Achenes laterally compressed, ellipsoid to obovoid, 4-angled and rhombic in section, glabrous to densely ciliate; pappus of 1 to 3 unequal to subequal awns.

LECTOTYPE: *Spilanthes urens* Jacq.

A genus of 6 species of tropical areas. For further information see R. K. Jansen, Syst. Bot. **6:** 234-237. 1981.

Spilanthes urens Jacq., Enum. Pl. Carib. 8, 1760. FIGURES 229c, 270.

Type: Jansen cited as "representative, Jacq., Select. Stirp. Amer. Hist. *t. 126, f. 1.*"

Herb, stems prostrate, occasionally branched. Leaves sessile, narrowly lanceolate to oblanceolate, 1.2-9.7 × 0.2-2 cm, attenuate and connate at base, apex rounded to acute, trinerved, margin entire to sinuate, glabrous to moderately pilose. Heads solitary, peduncles 2.8-13.6 cm long, heads ovoid, 8-10 mm long, phyllaries 7 to 12, 2-seriate, oblong, pales 3.5-5 mm long, fimbriate or rounded at apex, florets 100 to 200, corolla 1.9-2.9 mm long, white. Achenes obovoid, 2-2.9 mm long, 4-angled, black, pubescent; pappus of 2 subequal awns 1-1.4 mm long.

GENERAL DISTRIBUTION: Greater Antilles, Mexico, Costa Rica, Colombia, Brazil.

DISTRIBUTION IN LESSER ANTILLES: Martinique!.

COMMON NAME: Bouton blanc.

STRUCHIUM P. Br.

Struchium P. Br., Civ. Nat. Hist. Jam. 312. 1756.

Syn.: *Sparganophorus* Boehm., *in* Ludwig, Def. Gen. ed. Boehmer 154, 560. 1760. (Type: Not designated.)

Annual herb. Leaves alternate, petiolate or subsessile, venation pinnate. Heads single or clustered in axils, involucre hemispheric, phyllaries numerous, in several series; receptacle naked; corolla tubular, regular, 3- or 4-lobed, white or pink, anthers sagittate. Achenes 3- or 4-angled and ribbed, glabrous or glandular, with shallowly lobed or entire cartilaginous crown.

TYPE: *Ethulia sparganophora* L. = *Struchium sparganophorum* (L.) Kuntze.

A monospecific genus of tropical America and Africa.

Struchium sparganophorum (L.) Kuntze, Revis. Gen. Pl. **1:** 366. 1891. FIGURES 229d, 271.

Basionym: *Ethulia sparganophora* L., Sp. Pl. ed. 2, 1171. 1763.
Type: Jamaica, Browne, Civ. Nat. Hist. Jam. *t. 34, f. 2.*
Syn.: *Sparganophorus vaillantii* Crantz, Inst. **1:** 261. 1766. (Type: Not indicated.)

Erect herb to 1 m. Leaves cauline, petioles 5-15 mm long, blades linear-lanceolate to oblanceolate or elliptic, 3-17 × 1-6 cm, base acuminate or long-decurrent to stem, apex acuminate, margin sharply serrate to entire, glabrous above, strigose and glandular below. Heads in axillary clusters,

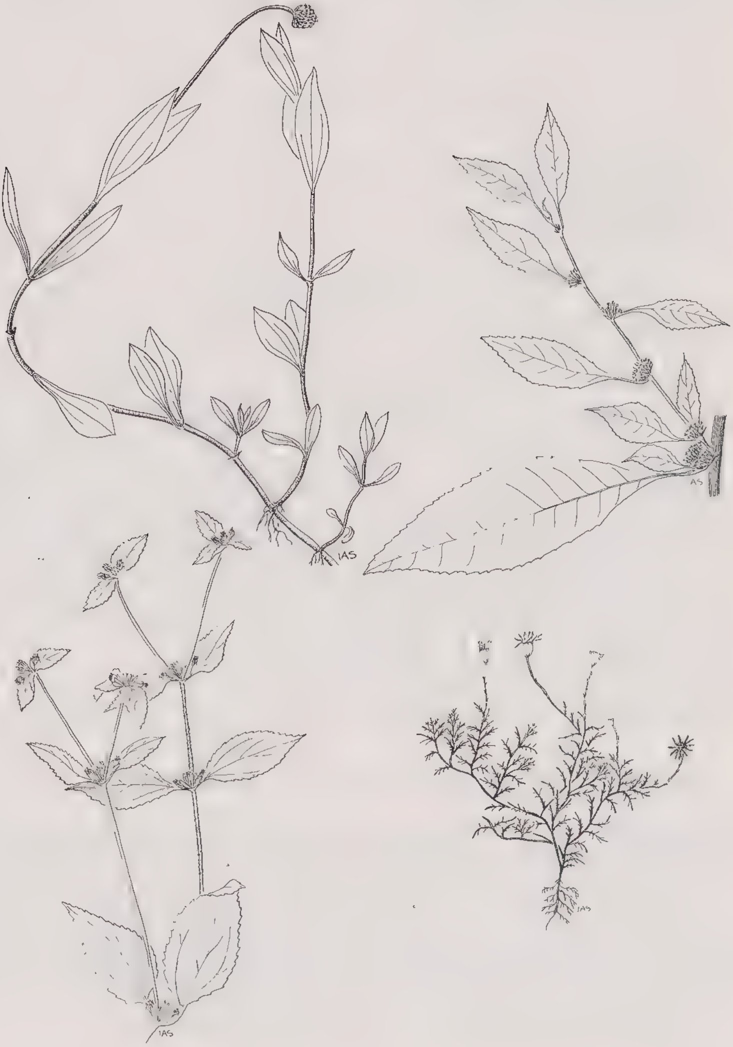


FIGURE 270 (upper left). *Spilanthes urens*: × 0.33. FIGURE 271 (upper right). *Struchium sparganophorum*: × 0.33. FIGURE 272 (lower left). *Synedrella nodiflora*: 0.33. FIGURE 273 (lower right). *Thymophylla tenuiloba*: × 0.33.

involucre hemispheric, to 1 cm in diameter, phyllaries imbricate, ovate-lanceolate, 4-5 mm long in 3 or 4 series, acuminate to aristate; florets discoid, about 50, corolla 2 mm long, white or pink to nearly purple. Achenes narrowly oblong, 1.5-2 mm long, 4-angled or ribbed, greenish-brown, glandular; pappus a cartilaginous crown shallowly lobed, 1 mm long, white.

GENERAL DISTRIBUTION: Greater Antilles, southern Mexico, south to tropical South America, elsewhere as a weed.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Guadeloupe!, Marie Galante!, Dominica!, Martinique!.

COMMON NAME: Oreille-mouton.

SYNEDRELLA Gaertner

Synedrella Gaertn., Fruct. **2:** 456, *t. 171, f. 7.* 1791, nom. cons.

Annual erect or spreading herbs. Leaves opposite, triplinerved. Heads radiate, heterogamous, in forks of upper branches, or fascicled in leaf axils, usually sessile, involucre nearly cylindrical, phyllaries in 2 series, the outer herbaceous, inner scarious, receptacle convex, with scarious-elongate-pubescent pales; ray florets 5 to 8, pistillate, fertile, corolla filiform, yellow; disk florets perfect, yellow. Achenes dimorphic, those of ray florets elliptic, flattened, with toothed margins, with ascending awns or bristles, those of disk florets clavate, muricate or tuberculate, with 2 to 4 long awns.

TYPE: *Verbesina nodiflora* L. = *Synedrella nodiflora* (L.) Gaertn.

A genus of about 1 or 2 species of tropical areas.

Synedrella nodiflora (L.) Gaertn., Fruct. **2:** 456. *pl. 171.* 1791.
FIGURES 229e, 229f, 272.

Basionym: *Verbesina nodiflora* L., Cent. Pl. **1:** 28. 1755.
Type: Jamaica, Browne, LINN.

Erect herb, to 70 cm tall, strigose to glabrate. Leaves with short-winged petioles, blades ovate, 3-10 × 1.5-4 cm, base cuneate, apex acute, margins serrulate to subentire, strigose on both surfaces with golden glands. Heads 6-8 mm high, sessile or on peduncles to 2 cm long, involucral phyllaries 3 or 4, ovate, strigose, pales linear-elliptic, 6-7 mm long, tips fimbriate, stramineous; ray florets 4 mm long, pistillate, tube filiform longer than ligule, glabrous, achenes 4 mm long, oblong, flattened, striate, winglike margins with ascending bristles and hispidulous, apical teeth flat; disk florets with achenes flattened or 3-angled, 4 mm long, verrucose on inner face, 2- to 4-aristate, awns 3 mm long, short-pilose.

GENERAL DISTRIBUTION: Greater Antilles, Mexico south to Argentina, introduced into the Old World.

Distribution in Lesser Antilles: Anguilla!, St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

TAGETES L.

Tagetes L., Sp. Pl. **2:** 887. 1753.

Annual herbs. Leaves opposite, pinnate or pinnatifid, glandular-punctate and scented. Heads peduncled, solitary, involucre cylindric, 3 to 10 phyllaries in one series, these glandular, receptacle naked, foveolate, ray florets few, pistillate, fertile, ligules often broad, yellow or orange, notched; disk florets several, perfect, corolla tube narrow, lobes triangular. Achenes elongate, clavate, flattened or angled, glabrous or pubescent; pappus of 3 to 10 unequal squamellae, 1 or 2 bristlelike.

Lectotype: *Tagetes patula* L. = *Tagetes erecta* L.

A genus of 50 species of the American tropics.

Tagetes erecta L., Sp. Pl. **2:** 887. 1753.

Type: Mexico, LINN.
Syn.: *Tagetes patula* L., Sp. Pl. **2:** 887. 1753. (Type: Not determined.)

Annuals, to 1 m tall, often branched, foliage aromatic when crushed. Leaves pinnately divided, leaflets 11 to 17, lanceolate or linear-lanceolate, 1-5 cm long, acute at both ends, sharply serrate, tips often bristle-tipped. Peduncles 5-15 cm long, heads campanulate, phyllaries 5 to 8, deltoid, with marginal glands, ray florets 5 to 8, ligules broadly obovate, 1-2 cm long, disk florets numerous, corolla 8-10 mm long. Achenes 7-8 mm long; squamellae united, but one longer than rest.

General distribution: Native of Mexico but widely cultivated and persisting.

Distribution in Lesser Antilles: Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica, Martinique!, St. Lucia!, St. Vincent!, Barbados!.

Common names: Marigold, oeillets, rose d'Inde.

Notes: Probably under cultivation on all islands but cited distribution is of documented plants escaped, persisting or thoroughly naturalized as weeds.

THYMOPHYLLA Lagasca

Thymophylla Lagasca, Gen. Sp. Nov. 25. 1816.

Herbs, annual or perennial. Leaves opposite or alternate, blades linear-filiform or pinnatisect with linear-filiform lobes, glands scattered. Inflorescence terminal, heads solitary, pedunculate, radiate, heterogamous, calyculus of 1 to 3 short bracts; phyllaries 8 to 13, strongly connate for 2/3 their length, glandular; receptacle naked, ray florets pistillate, fertile, yellow; disk florets perfect, yellow. Achenes obconic to cylindric; pappus of 10 squamellae, variously aristate or dissected.

TYPE: *Thymophylla setifolia* Lag.

A genus of perhaps 25 species of southwestern United States, Mexico and Central America. A broad circumscription of *Dyssodia*, including *Thymophylla*, was adopted by J. L. Strother (Univ. Calif. Publ. Bot. **48:** 1-88. 1969) but renovated in a new treatment (Sida **11:** 371-8. 1986) which is closer to that of P. A. Rydberg (N. Amer. Fl. **34:** 147-216. 1916).

Thymophylla tenuiloba (DC.) Small, Fl. SE. U.S. 1295. 1903.

FIGURES 229g, 273.

Basionym: *Hymenantherum tenuilobum* DC., Prodr. **5:** 642. 1836.
Type: Mexico, *Berlandier 2063.*
Syn.: *Dyssodia tenuiloba* (DC.) B. L. Robinson, Proc. Amer. Acad. **49:** 508. 1913.

Diffuse-branched perennial, to 20 cm tall, stems puberulent. Leaves alternate, elliptic in outline, 1-2 × 1 cm, pinnatisect into 9 to 12 filiform segments, spinulose-tipped, with oval glands. Peduncles 3-4 cm long, bracts of calyculus ovate, 3 to 5, involucre turbinate, phyllaries 12 to 15, connate to near the obtuse, ciliate or erose tips, each with 1 to 4 glands; ray florets 11 to 15, ligules 3-4 mm long, bright yellow; disk florets 50 to 100. Achenes obpyramidal, 2.5-3 mm long, black, striate, sparsely pubescent with stiff ascending hairs; pappus of 5-120 squamellae, 3 mm long, these 3-awned with the middle awn larger.

GENERAL DISTRIBUTION: Southwestern United States and Mexico.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, Saba!, St. Vincent!, Barbados!.

NOTE: Cultivated but naturalized in many localized areas.

TITHONIA Desfontaines

Tithonia Desf., ex Juss., Gen. Pl. 189. 1789.

Erect annual or perennial herbs, shrubs or trees. Leaves alternate, petiolate or sessile, blades deltate or 3- to 5-lobed, triplinerved. Peduncle inflated and hollow, heads mostly solitary, radiate, heterogamous, phyllaries 2- to 5-seriate, receptacle convex, pales stiff, striate, usually lobed, surrounding achenes; ray florets 8 to 20, sterile, ligules yellow to orange, achenes triangular, pappus present or absent. Disk florets perfect, corolla 5-lobed, yellow, anthers black, brown or tan. Achenes oblong, triangular or rounded-quadrangular, black, brown or mottled; pappus absent or of fused squamellae and sometimes awns.

TYPE: *Tithonia uniflora* Desf. ex Gmelin = *Tithonia rotundifolia* (Mill.) S. F. Blake.

A genus of 10 species of Mexico and Central America, introduced elsewhere in tropical areas. For further information see J. C. La Duke, Rhodora **84:** 453-522. 1982.

KEY TO THE SPECIES

Ligules of ray florets more than 45 mm; phyllaries graduated, the outer shortest, obtuse at apex . . . . *T. diversifolia*

Ligules of ray florets less than 33 mm long; phyllaries not graduated, the outer as long as or longer than the inner series, generally acute and apiculate at apex . . . . *T. rotundifolia*

Tithonia diversifolia (Hemsl.) A. Gray, Proc. Amer. Acad. Arts **19:** 5. 1883.
FIGURES 229h, 274.

Basionym: *Mirasolia diversifolia* Hemsl. *in* Goodman & Salvin, Biol. Centr. Amer. Bot. **2:** 168, *t. 47. 1881.*
Type: Mexico, *E. Bourgeau 2319* (lectotype, K).

Erect perennial, to 3 m tall, stems glabrous to villose. Leaves sessile or with petioles to 6 cm long, blades deltate or commonly to 3- to 5-lobed, 7-33 × 7-22 cm, base attenuate, apex acuminate, margin serrate, upper surface glabrous to hispid-pilose, lower surface glabrous to villose. Heads solitary, on peduncles 7-24 cm long, phyllaries 16 to 28 graduated in 3 series, the outer shorter than the middle and inner series; receptacle 7-13 mm in diameter, pales striate, 10-13 mm long, aristate; ray florets 7 to 14, ligules yellow, linear, 48-69 mm long, 9-16 mm wide, achenes sterile; disk florets 80 to 120, corolla 5 mm long, anthers black, 4-5 mm long. Achenes quadrangular, 5-6 mm long, black or mottled, silky pubescent; pappus of fused squamellae, 2 with subequal awns, 2-2.5 mm long.

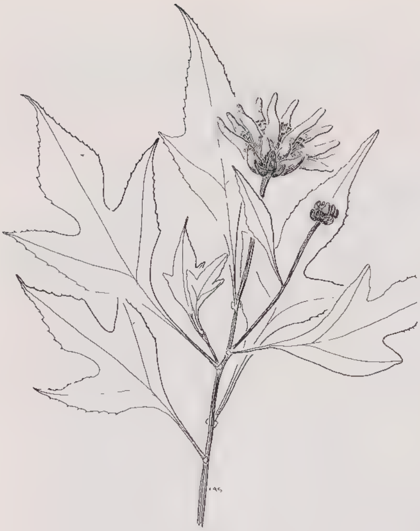
GENERAL DISTRIBUTION: Native to Mexico and Central America but now widely cultivated in tropical areas.

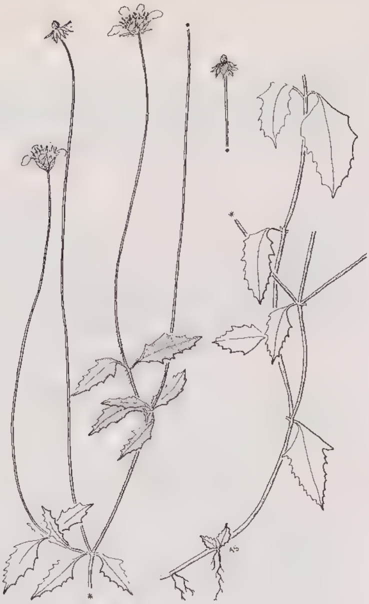
DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Vincent!, Grenada!, Barbados.

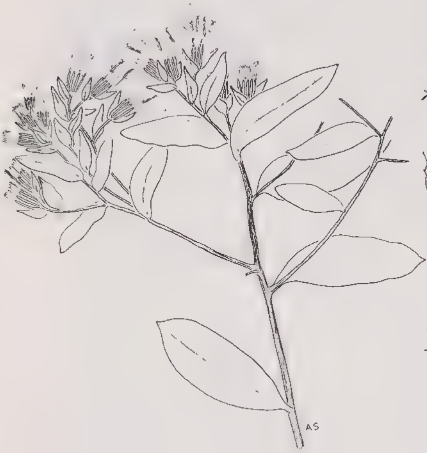
Tithonia rotundifolia (Miller) S. F. Blake, Contr. Gray Herb. **52:** 41. 1917.

Basionym: *Tagetes rotundifolia* Miller, Gard. Dict. ed. 8. 1768.
Type: Mexico, *Houstoun s.n.* (holotype, BM).

Erect annual, to 4 m tall. Leaves with petioles 2-10 cm long, blades deltate to triangular, to 3-lobed, 9-38 × 4-30 cm, base subtruncate and attenuate, apex acute to acuminate, margin crenate to serrate, upper surface glabrous to hispid, lower surface puberulent to hispid. Peduncles 11-27 cm long, heads solitary, phyllaries 14 to 21 in 2 series, the outer as long as the inner; receptacle 7-13 mm in diameter, pales 11-15 mm long, acuminate to aristate, ray florets 8 to 13, ligules 20-33 mm long, orange to yellow, achenes sterile. Disk florets 60 to 90, corolla 5 mm long, 5-lobed. Achenes quadran-







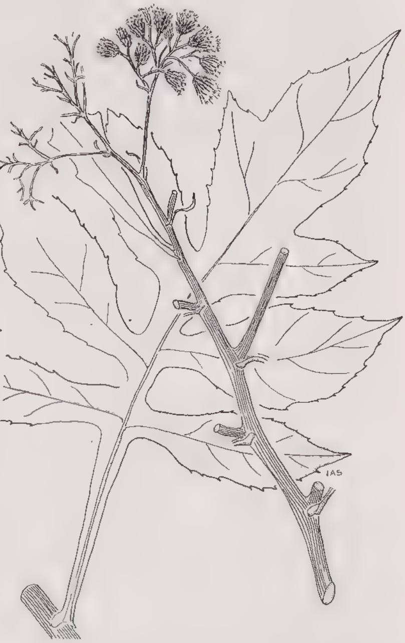


FIGURE 274 (upper left). *Tithonia diversifolia*: × 0.3. FIGURE 275 (upper right). *Tridax procumbens*: × 0.3. FIGURE 276 (lower left). *Trixis inula*: × 0.3. FIGURE 277 (lower right). *Verbesina gigantea*: × 0.3.

gular, 5-7 mm long, black, silky-pubescent; pappus of fused fimbriate-margined squamellae with 2 awns.

GENERAL DISTRIBUTION: Native to Mexico and Central America, introduced elsewhere in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Saba, Guadeloupe!, Martinique!.

COMMON NAMES: Sunflower, fleur-soleil.

TRIDAX L.

Tridax L., Sp. Pl. **2:** 900. 1753.

Perennial herbs. Leaves opposite, dentate or incised. Heads long peduncled, radiate, heterogamous, involucre ovoid to hemispheric, phyllaries in 2 to 3 series, nearly equal, receptacle flat or convex, pales scarious, persistent; ray florets pistillate, 3-lobed, yellowish to white; disk florets perfect, bilabiate, yellow, anthers sagittate at base. Achenes obconical to subcylindric, black, silky-villose; pappus of 20 plumose or fimbriate scales.

TYPE: *Tridax procumbens* L.

A genus of 26 species of tropical America. For further information see A. M. Powell, Brittonia **17:** 47-96. 1965.

Tridax procumbens L., Sp. Pl. **2:** 900. 1753. FIGURES 229i, 275.

Type: Mexico, *Houstoun s.n.* (holotype, BM).

Herbs, trailing or ascending, branches to 50 cm long. Leaves with petioles 2-3 cm long, blades ovate to ovate-lanceolate, 2-7 × 1-4 cm, base cuneate, apex acute or obtuse, margins dentate-incised, hirsute both surfaces, triplinerved or 3-lobed. Peduncles 10-30 cm long, pubescent, with stalked-glandular hairs; heads solitary, involucre campanulate, 6 mm high, outer phyllaries green, hirsute, inner scarious, glabrous; ray florets 3 to 6, white, disk florets 50 to 70, yellow. Achenes 2-2.5 mm long, subcylindric, angled, pilose, black; pappus of 20 plumose bristles, 5-6 mm long, white.

GENERAL DISTRIBUTION: Now widespread as a weed of tropical areas.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, Antigua!, St. Kitts!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

TRIXIS P. Browne

Trixis P. Browne, Civ. Nat. Hist. Jam. 312, *pl. 33, f. 1.* 1756.

Perennial herbs. Leaves alternate, petiolate, blades simple, denticulate or entire, venation pinnate. Inflorescence terminal, corymbose or paniculate, heads cylindrical, homogamous; phyllaries 7 to 12, uniseriate, usually equal, spreading with age, receptacle flat, alveolate, florets all perfect, fertile, 11 to 15, corolla yellow, bilabiate, 3-toothed, anthers tailed at base. Achenes oblong to linear, 5-ribbed, with fusiform beak, covered with double hairs and small glands; pappus bristles 2- or 3-seriate, barbellate.

TYPE: *Inula trixis* L. = *Trixis inula* Crantz.

A genus of 60 species of tropical America. For further information see C. Anderson, Brittonia **23:** 347-353. 1971; Mem. New York Bot. Gard. **22:** 1-68. 1972.

Trixis inula Crantz, Inst. Rei Herb. **1:** 329. 1766. FIGURES 229j, 276.

Type: Renaming of *Inula trixis* L., Jamaica, *Browne* (LINN).
Syn.: *Inula trixis* L., Amoen. Acad. **5:** 406. 1759. (Type: Jamaica, *Browne*, LINN.)
Perdicium radiale L., Sp. Pl. ed. 2, 1248. 1763. (Type: as above.)
Trixis radialis (L.) Kuntze, Revis. Gen. Pl. **1:** 370. 1891.
Trixis frutescens P. Browne, ex Sprengel, Syst. **3:** 501. 1826 (Type: same as for *Inula trixis.*)

Herb to 3 m tall, much-branched. Leaves with petioles 1-5 mm long, blades linear-lanceolate to elliptic, 2.4-16 × .8-5.5 cm, base attenuate to truncate, apex acute or acuminate, apiculate, margin denticulate or entire, upper surface glabrous, lower surface with glands and hairs scattered on margins. Inflorescence a leafy corymbose panicle, phyllaries 7 to 9, linear to oblong, 8-13 mm long, pilose; florets 10 to 15, corolla tube 5-9 mm long. Achene linear-cylindrical, 4.5-9 mm long, ribbed, covered with stiff short double hairs, brown; pappus 1 cm long, bristles barbellate, straw-colored.

GENERAL DISTRIBUTION: Greater Antilles, Texas, Mexico, Central America, northern South America.

DISTRIBUTION IN LESSER ANTILLES: Collected only on Isle of Ronde and Petit Martinique in the Grenadines.

VERBESINA L.

Verbesina L., Sp. Pl. **2:** 901. 1753.

Herbs or shrubs. Leaves opposite or alternate, stalked or sessile, toothed or lobed. Heads in corymbs or solitary, on long peduncles, radiate, heterogamous, involucre hemispheric, or campanulate, phyllaries in 2 or 3 series, herbaceous or dry; receptacle convex or conical, ray florets ligulate, 2- to 3-dentate; disk florets short tube and 5-lobed limb, anthers obtuse at base. Achenes broad, compressed, margin winged, pappus of 2 deciduous or persistent straight awns.

LECTOTYPE: *Verbesina alata* L.

A genus of 150 species of tropical America.

KEY TO THE SPECIES

1. Achene awns hooked at apex; low herb, stems alate .... *V. alata*
1. Achene awns straight.
    2. Leaves serrate, crenate or dentate.
        3. Ligules of ray flowers 12-14 mm long.
            4. Stems with prominent leaf-scars; leaves obtuse to rounded at apex; phyllaries and corolla tubes glabrous .... *V. howardiana*
            4. Stems without prominent leaf scars; leaves acute at apex; phyllaries and corolla tubes pubescent .... *V. guadeloupensis*
        3. Ligules of ray florets to 5 mm long .... *V. leprosa*
    2. Leaves deeply pinatifid .... *V. gigantea*

Verbesina alata L. Sp. Pl. **2:** 901. 1753.

Lectotype: Hort. Cliff. 411, (BM ex Wijnands).
Syn.: *Tepion alatum* (L.) Britton, Bull. N.Y. Bot. Gard. **8:** 408. 1917.

Creeping to ascending herb, to 50 cm tall, stems winged. Leaves sessile or with petiole to 1 cm long, blades lanceolate to ovate to ovate-oblong, 8-20 × 4-11 cm, base narrowed, apex acute or obtuse, margin crenate to dentate, pinnately nerved, scabrous both surfaces. Heads mostly solitary, peduncles to 13 cm, densely hirsute, involucre 2- to 3-seriate, phyllaries lanceolate to oblong, 3.4-4 mm, pubescent, receptacle conical, pales narrow, folded, 4.5 mm long, ray florets 35 to 37, ligules orange, 1-2 mm long, disk florets 60, corolla orange, 1.6 mm long. Achenes 4 mm long, dark with pale-ciliated wings, sparingly glandular-pubescent; pappus awns unequal, 1.5-3 mm long, the longer strongly hooked.

GENERAL DISTRIBUTION: Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Kitts, Guadeloupe!, Marie Galante!.

Verbesina gigantea Jacq., Icon. Rar. **1:** 17, *t. 175.* 1784; Collect. **1:** 53. 1786. FIGURES 229k, 277.

Type: Plum., Pl. Amer. 41, *t. 51.*
Syn.: *Verbesina pinnatifida* Sw., Prodr. 114. 1788. (Type: Jamaica, Plum., Pl. Amer. 41, *t. 51.*

Herb to 4 m tall, stems hirsute to glabrate. Leaves deeply 5- to 9-lobed, 4-45 × 2-35 cm, base winged to auricles or fused to stem, apex of blade and lobes acuminate, margin of lobes sharply and coarsely toothed, partly entire, minutely callose-dentate, scabridulous both surfaces. Inflorescence cymose-paniculate, to 30 cm across, heads numerous, peduncles to 2 cm long, pilose; phyllaries in 2- or 3-graded series, linear-lanceolate, 2.5-4.5 mm long, acuminate, pales enveloping the flowers, 4.2-5.7 mm long, ray florets 1 to 5, to 7 mm long, ligule white, corolla limb deeply lobed; disk florets 15 to 22, to 6 mm long, white to pale purple. Achenes 4-5 mm long, body black, glabrous or with scattered hairs, broadly membranaceous-winged; pappus of 2 unequal strigose awns 3.5 mm long, brown.

GENERAL DISTRIBUTION: Jamaica, Cuba, Panama.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!.

Verbesina guadeloupensis Urban, Symb. Antill. **2:** 466. 1901.

Syntypes: Guadeloupe, *Duss 2809, 3308.*
Syn.: *Verbesina helianthoides* sensu Duss (Guadeloupe, *Duss 3308*), non H.B.K.

Shrub to 50 cm tall, stems densely pubescent, leaves clustered near ends of branches. Leaves with petioles to 5 mm long, blades ovate to obovate, 8-15 × 4-7 cm, unlobed, base tapered into petiole, apex acute or obtuse, margin callose-crenate, densely stiff pubescent becoming sparsely so on midrib and veins. Inflorescence corymbose, 7- to 15-headed, peduncles 2.5-7 cm long, heads 15 mm in diameter, phyllaries in two series, graduated, oblong, 2-7 mm long, apex obtuse, pubescent or glabrous; pales stramineous, 5-9 mm long, ray florets 12 to 17, yellow, to 1 cm long; disk florets ca. 50, yellow. Achenes 5-6 mm, glabrous, membranaceous wings present; awns 2, broad at base, 3 mm long.

GENERAL DISTRIBUTION: Guadeloupe!.

NOTE: Specimens are known from the Soufrière and several adjacent peaks on Guadeloupe.

Verbesina howardiana J. Olsen, Phytologia **67:** 107, 108. 1989.

Type: Dominica, *Nicolson 1815* (holotype, GH).

Shrub to 1 m tall, stems terete, pithy, nearly glabrous below and strongly marked by prominent leaf scars, becoming densely pubescent above. Leaves with petioles < 1 cm long, blades obovate, 12 × 7 cm, base narrowed to short resinous-pubescent petiole, apex rounded to broadly acute, margins revolute, minutely serrate, glabrous above or with few resinous hairs along midvein, densely resinous-pubescent along veins below, sparsely pubescent on leaf surface. Capitulescence a loose corymb of 12-20 heads on densely pubescent peduncles < 6 cm long, heads to 1.5 cm in diameter, involucre 2- or 3-seriate, outer series oblong, 3-4.5 × 1.2-1.5 mm, inner series oblanceolate, 5-5.8 × 1.2-1.5 mm, apex rounded to broadly acute, pubescent at base only, margins not ciliate; pales 6.5-8 × 1.7-2 mm, glabrous, apex herbaceous, margins not ciliate; rays 19 to 21, yellow, ligules 11-15 × 3.2-3.5 mm, apex minutely 3-dentate, styles well exserted from tube, tube 1.8-2 mm long, 0.4-0.5 mm wide, pubescent; disk florets numerous, ca. 75, corolla yellow, tubular, 3.8-4 mm long, 1.4-1.5 mm wide, tube 1.5 mm long, 0.5 mm wide, glabrous. Ray achenes black, glabrous, 5-5.5 × 1.3-1.5 mm, thinly winged, wings < 0.2 mm, awns unequal < 4.5 mm long; disk achenes black, glabrous, 5.3-5.5 × 1.7-2 mm, thinly winged, wings < 0.3 mm, awns unequal < 5 mm long.

GENERAL DISTRIBUTION: Endemic to Dominica.

Verbesina leprosa Klatt, Leopoldina **20:** 93. 1884.

Type: Martinique, *Hahn 1214* (frag., GH).
Syn.: *Verbesina helianthoides* sensu Duss (Martinique, *Duss 971*) non H.B.K.

Leaves with petioles 3-10 mm long; blades ovate to elliptic, 6-12 × 2.5-6 cm, unlobed, base cuneate, apex acute to short-acuminate, margin glandular-crenate to serrate at upper half, subscabrous. Inflorescence corymbose, heads 6 to 20, peduncles 4-15 mm long, phyllaries subequal, linear, ray florets 10-15, ligules 7 mm long; disk florets ca. 150. Achenes oblong-lanceolate, 4 mm long, glabrous to sparsely pilose, punctate above, awns equal to unequal.

GENERAL DISTRIBUTION: Endemic to Martinique.

NOTE: Description compiled. The fragment seen (GH) was of the Klatt herbarium purchased in 1898 and annotated by Robinson & Greenman. The packet unfortunately contains a mixture of achenes, and the flowers are immature. The Hahn collection was stated to be from Morne Rouge while the Duss collection (n.v.) was from a cultivated plant. Both Hahn and Duss did collect specimens from the St. Pierre Botanic Garden, and this species may have been introduced.

VERNONIA Schreb.

Vernonia Schreb., Gen. **2:** 541. 1791.

Annual or perennial herbs or shrubs. Leaves alternate, venation pinnate. Inflorescence typically scorpioid cymes, terminal or in upper axils, becoming paniculate or corymbiform, or reduced to solitary or terminal and axillary heads. Heads homogamous, 5- to many-flowered, involucre campanulate or subcylindric, phyllaries loosely or closely imbricated, in few to many series, inner longer, spreading at maturity; receptacle flat, naked; corolla regular, 5-lobed, anthers sagittate at base. Achenes ribbed or ribless and truncate, pappus of 2 series, outer short scales or bristles, inner capillary or flattened bristles.

TYPE: *Serratula noveboracensis* L. = *Vernonia noveboracensis* (L.) Willd.

A genus of several hundred species of tropical and subtropical areas. For further information see Keeley, J. Arnold Arbor. **59:** 360-412. 1978.

1. Annual herb, heads pedunculate, achenes terete, ribless, inner pappus bristles caducous . . . . *V. cinerea*
1. Shrubs, or small trees, heads sessile, achenes 10-ribbed, inner pappus bristles persistent.
   2. Heads not bracteate or with subulate bracts only, in simple or branched scorpioid cymes . . . . *V. pallescens*
   2. Heads all subtended by foliaceous bracts in simple or compound racemiform or spiciform cymes or capitate clusters.
      3. Phyllaries tawny, glabrous or ciliate on margins, apex acuminate . . . . *V. arborescens*
      3. Phyllaries gold to brown with dark tips, pilose or hirsute, apex acute . . . . *V. albicaulis*

Vernonia patula (Dry.) Merr. was once cultivated on Guadeloupe (*Duss 4032*) as "*V. sinensis* Ley."

Vernonia albicaulis Pers., Syn. Pl. **2:** 404. 1807.

Type: St. Croix, *Vahl 737* (P-JU 8434).

Syn.: *Vernonia punctata* Sw. ex Wikstr. Kong. Vetensk. Acad. Handl. **1827:** 73. 1828. (Type: Guadeloupe, *Forsström s.n.* (holotype, S).)

Vernonia emarginata Wikstr., Kong. Vetensk. Acad. Handl. **1829:** 72-73. 1828. (Type: as for *V. punctata.*)

Vernonia vahliana Lessing, Linnaea **4:** 306. 1829. (Lectotype: *Vahl s.n.* (Herb. Willd. 15622, selected by Keeley (1978) although Lessing cited St. Croix, *Hornemann s.n.*)

Eupatorium secundiflorum Beret. ex DC., Prodr. **5:** 48. 1836 (Type: Guadeloupe, *Balbis 44* (holotype, G-DC).)

Vernonia longifolia var. *genuina* Urb., Symb. Ant. **1:** 456. 1899. (Type: Guadeloupe, *Duss 2489* (lectotype, NY).)

Vernonia shaferi Gleason, Bull. Torr. Bot. Club **46:** 238-239. 1919. (Type: Montserrat, *Shafer 172* (holotype, NY).)

Shrub to 2 m tall, stems pilose to hispid and gland-dotted. Leaves evenly dispersed, on petioles 1-11 mm long, blades oblong to elliptic, 2-15 × 0.8-5.6 cm, base cuneate or tapering, apex acute to obtuse, margins entire to repand, sparsely pilose-hispid to glabrate and gland-dotted. Inflorescence cymose, heads 11- to 20-flowered, peduncles sessile to 1 mm long, involucre campanulate, 4-6 mm high, phyllaries pilose to hispid, imbricate in few series, golden brown with brown tips, apex acute; corolla 5-10 mm long, lavender to white. Achenes ca. 3 mm long, ribbed, hispid to sericeous; pappus pale brown to white, inner bristles 4-6 mm long, outer pappus of fimbriate scales, 0.5-1 mm long.

GENERAL DISTRIBUTION: Puerto Rico, Virgin Islands.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!.

COMMON NAME: Tabac à jacot.

NOTE: Keeley described a new subsp., *V. albicaulis* ssp. *longistylis* Keeley (Type: Guadeloupe, *Keeley & Keeley 1948a*) known from Guadeloupe, Marie Galante and Iles des Saintes. It is taller and more robust than the typical subspecies.

Vernonia arborescens (L.) Sw., Fl. Ind. Occ. **3:** 1320. 1806.
FIGURES 2291, 278.

Basionym: *Conyza arborescens* L., Syst. Nat. **2:** 1213. 1759.
Type: Martinique, Plum. Pl. Amer. 122, *t. 130, f. 2.*
Syn.: *Vernonia divaricata* Less., Linnaea **4:** 306. 1829. (Type: Martinique, *Sieber s.n.* (Fl. Martin. 190) (holotype, L.).)
Vernonia arborescens Sw. var. *lessingiana* Griseb., Fl. Brit. W. Indian Is. 353. 1864. (Type: same as for *C. arborescens.*)
Vernonia ventosa Gleason, Bull. N.Y. Bot. Gard. **4:** 179. 1906. (Type: Martinique, "*Duss 303, 304, 4069*" (holotype, NY).)

Shrub to 2 m tall, stems velvety-pubescent, becoming glabrate. Leaves evenly spaced, with petioles 2-11 mm long; blades ovate-elliptic, 4.5-11 × 1.3-4.5 cm, base cuneate to rounded, apex acuminate or acute, margins entire to repand, hirsute-villose to sparsely so or glabrate. Inflorescence in scorpioid cymes, heads 15- to 25-flowered, sessile, involucre campanulate, 4.5-6 mm long, phyllaries golden brown, mostly glabrous or only ciliate on margins, apex acuminate; corolla 6-8 mm long, lavender to white, resinous at tips. Achenes 1.5-2 mm long, sericeous, ribbed; pappus white, inner bristles 4-5 mm long, outer of fimbriate scales 0.7-1.2 mm long.

GENERAL DISTRIBUTION: Endemic to Lesser Antilles.

DISTRIBUTION IN LESSER ANTILLES: Martinique!, St. Lucia!, St. Vincent!.

Vernonia cinerea (L.) Less., Linnaea **4:** 291. 1829.

Basionym: *Conyza cinerea* L., Sp. Pl. **2:** 862. 1753.
Type: No locality indicated, LINN 993.19.
Syn.: *Seneciodes cinereum* (L.) Kuntze, in Post & Kuntze, Lex. Gen. Phan. 515. 1904.

Herb, annual, to 80 cm tall, cinereous-pubescent above. Leaves with petioles winged, blades narrowly elliptic, lanceolate, obovate to triangular, 2-5 × 1.5-2.5 cm, base abruptly narrowed to petiole, apex acute to obtuse, margin serrate to entire, cinereous-pubescent beneath. Inflorescence loosely corymbose, 2-10 cm wide, bracteal leaves subulate, heads pedicellate, 13-flowered, involucre campanulate, 3-4 mm high, phyllaries loosely imbricate, corolla 6-7 mm long, purple. Achenes rounded, nearly ribless, 1.5 mm long; pappus white, inner bristles to 4 mm long, outer scales minute.

GENERAL DISTRIBUTION: Weedy and in disturbed habitat, nearly pantropical.

DISTRIBUTION IN LESSER ANTILLES: Anguilla!, St. Martin!, St. Barts!, Antigua!, St. Eustatius!, St. Kitts!, Montserrat!, Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Vernonia pallescens Gleason, Bull. New York Bot. Gard. **4:** 192-193. 1906.

Type: St. Vincent, *H.H. & G.W. Smith 992* (holotype, NY).

Shrub to 2 m tall, stems ribbed, pubescence inconspicuous. Leaves with petioles 5-10 mm long, blades elliptic to elliptic-lanceolate, 7.8-23.5 × 2.7-6

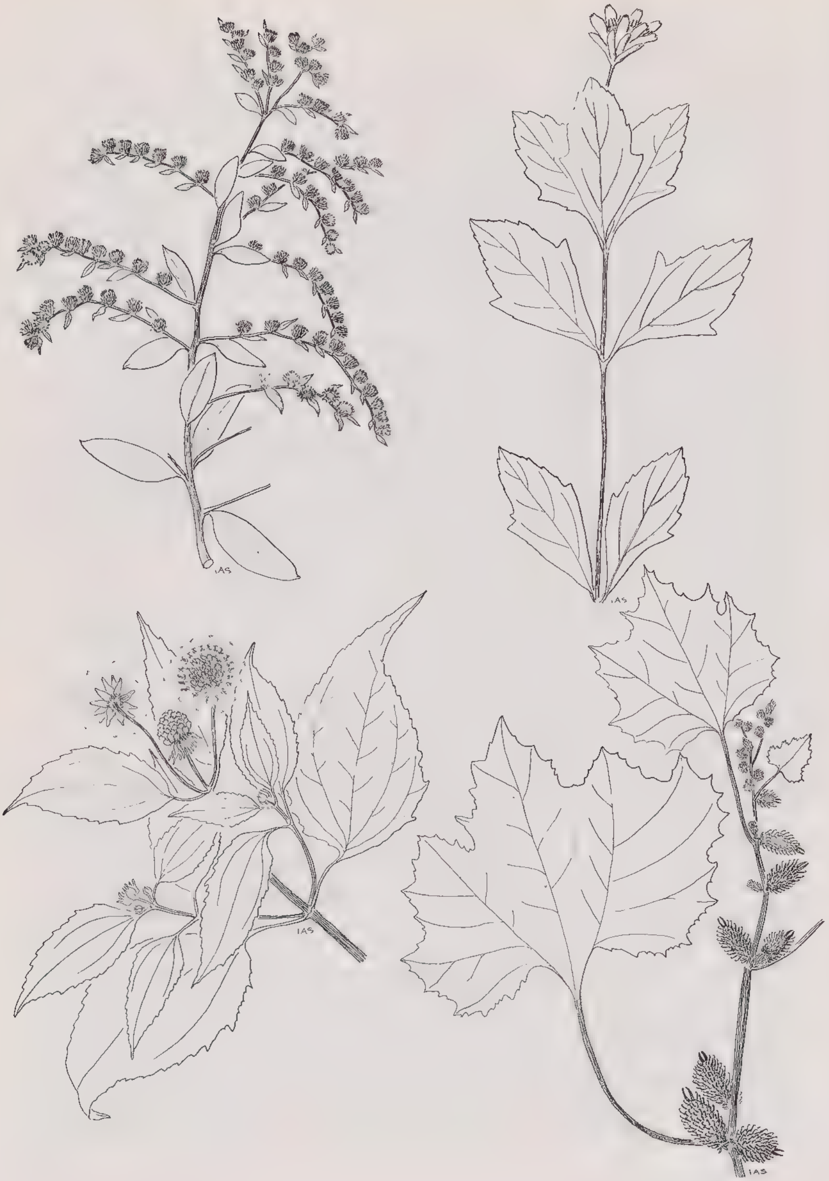


FIGURE 278 (upper left). *Vernonia arborescens*: × 0.33. FIGURE 279 (upper right). *Wedelia trilobata*: × 0.33. FIGURE 280 (lower left). *Wulffia baccata*: × 0.33. FIGURE 281 (lower right). *Xanthium strumarium*: × 0.33.

cm, base cuneate, apex long-acuminate, margins serrate at least above the middle, puberulent or glabrous and resin-dotted. Inflorescence of extended scorpioid cymes, branches to 17 cm long, subbracteal leaves absent; involucres campanulate, 5-6 mm high, 10- to 13-flowered, phyllaries minutely strigose, gold to brown, frequently with dark tips, corolla 5-6 mm long, purple to white. Achenes 2 mm long, obscurely ribbed, sericeous; pappus pale brown, inner bristles 4-4.5 mm long, barbellate, outer minute.

GENERAL DISTRIBUTION: Endemic to St. Vincent.

WEDELIA Jacq.

Wedelia Jacq., Enum. Pl. Carib. 8, 28. 1760, nom. cons.

Herbs or shrubs. Leaves opposite, petiolate or sessile, generally toothed, venation triplinerved to subpinnate. Heads terminal, pedunculate, radiate, heterogamous, flowers yellow; involucre hemispheric, phyllaries in 2 series, often foliaceous; receptacle flat or convex, pales present, enveloping disk achenes; ray florets pistillate, disk florets perfect, corolla tubular to campanulate. Achenes oblong to obovate, angled, smooth or tubercled, pilose, truncate or conic; pappus cuplike, toothed, divided or wanting, sometimes with 1 or 2 short awns.

TYPE: *Wedelia fruticosa* Jacq.

A genus of ca. 70 species of warm and tropical areas.

KEY TO THE SPECIES

1. Erect shrubs . . . . *W. calycina*
1. Prostrate or repent herbs only slightly woody.
    2. Leaves ovate, entire or slightly serrate . . . . *W. fruticosa*
    2. Leaves lobed and/or sharply serrate.
        3. Leaves fleshy, mostly glabrous; involucres 8-12 mm high . . . *W. trilobata*
        3. Leaves membranaceous, hirsute; involucre 6-8 mm high . . . . *W. gracilis*

Wedelia calycina Rich. *in* Pers., Syn. Pl. **2:** 490. 1807.

Type: Guadeloupe, *Richard s.n.*, n.v.

Syn.: *Wedelia parviflora* L.C. Rich., *in* Pers. Syn. Pl. **2:** 490. 1807. (Type: Guadeloupe, *Richard s.n.)*

Buphthalmum asperrimum Spreng. Neue Entdeck. **2:** 140. 1821. (Type: Guadeloupe & Dominica, no collector cited.)

Anomostephium buphthalmoides DC., Prodr. **5:** 560. 1836, nom. illegit. citing *Buphthalmum asperrimum* Spreng.

Wedelia ambigua DC., Prodr. **5:** 541. 1836. (Type: Guadeloupe, *Bertero s.n.*)

Wedelia buphthalmoides (DC.) Griseb., Fl. Brit. W. Indian Is. 372. 1861, nom. illegit. based on *Anomostephium buphthalmoides* DC.

Wedelia buphthalmoides var. *dominicensis* Griseb., Fl. Brit. W. Indian Is. 372. 1861. (Syntypes cited including: Dominica, *Imray s.n.*)

Wedelia buphthalmoides Griseb. var. *antiguensis* Nichols ex Griseb., Fl. Brit. W. Indian Is. 372. 1861. (Type: Antigua, *Wullschlaegel s.n.*)

Wedelia sieberi Griseb., Fl. Brit. W. Indian Is. 372. 1861. (Type: Martinique, *Sieber 201.*)

Wedelia jacquini forma *angustifolia* Schulz *in* Urb. Symb. Antill. **7:** 102. 1911. (Type: Guadeloupe, *Duchassaing s.n.*)

Wedelia jacquini var. *calycina* (Rich.) Schulz forma *truncata* Schulz, *in* Urb. Symb. Antill. **7:** 102. 1911. (Type: Guadeloupe, *Duchassaing s.n.*)

Wedelia jacquini var. *parviflora* (Rich.) Schulz, *in* Urb. Symb. Antill. **7:** 103. 1911.

Wedelia jacquini var. *involucrata* Schulz forma *andersonii* Schulz, *in* Urb. Symb. Antill. **7:** 104. 1911. (Type: St. Vincent, *Anderson s.n.*)

Wedelia calycina var. *involucrata* (Schulz) Domin, Act. Bot. Bohemica **9:** 77. 1930.

Wedelia calycina var. *asperrima* (Spreng.) Domin, Act. Bot. Bohemica **9:** 76. 1930.

Wedelia calycina var. *dominicensis* (Griseb.) Domin, Act. Bot. Bohemica **9:** 76. 1930.

Wedelia jacquinii L.C. Rich. ssp. *jacquinii* Stehlé, Adansonia **2:** 353. 1962.

Wedelia jacquinii L.C. Rich. ssp. *jacquinii* Stehlé var. *jacquinii* Stehlé, Adansonia **2:** 353. 1962.

Wedelia jacquinii L. C. Rich. ssp. *jacquinii* var. *angustifolia* (Schulz) Stehlé, Adansonia **2:** 354. 1962.

Wedelia jacquinii L.C. Rich. ssp. *calycina* (Rich.) Stehlé, Adansonia **2:** 354. 1962. (Type: Marie Galante, *Duss 2525.*)

Wedelia jacquinii L.C. Rich. ssp. *calycina* var. *mariae-galantae* Stehlé, Adansonia **2:** 355. 1962. (Type: Marie Galante, *Duss 2525.*)

Wedelia jacquinii L.C. Rich. ssp. *calycina* var. *truncata* (Schulz) Stehlé, Adansonia **2:** 355. 1962.

Wedelia jacquinii L.C. Rich. ssp. *parviflora* (L.C. Rich.) Stehlé, Adansonia **2:** 356. 1962.

Wedelia jacquinii L.C. Rich. ssp. *involucrata* (Schulz) Stehlé, Adansonia **2:** 356. 1962.

Wedelia jacquinii L. C. Rich., ssp. *involucrata* (Schulz) Stehlé var. *magdalenae* Stehlé, Adansonia **2:** 357. 1962. (Syntypes cited, no holotype indicated.)

Wedelia jacquinii L.C. Rich. ssp. *involucrata* (Schulz) Stehlé var. *andersonii* (Schulz) Stehlé, Adansonia **2:** 3557. 1962.

Wedelia calycina var. *parviflora* (L.C. Rich.) Alain, Brittonia **20:** 154. 1968.

Shrub, to 3 m tall, all parts scabrous-hirsute. Leaves with petioles 2-5 mm long; blades ovate to ovate-lanceolate, 5-15 × 1.5-5 cm, base cuneate, acute, rounded to subtruncate, apex acute to acuminate, margin serrulate to coarsely dentate, weakly to strongly triplinerved to subpinnate, scabrous above, scabrous to hirsute below. Peduncles usually solitary, as long as leaves or much shorter, phyllaries 8-15 mm long, outer foliaceous; pales linear, 5-6 mm long; rays to 2 cm, bright yellow, disk florets yellow. Achenes clavate, 5-6 mm long, angled or compressed, glabrous; pappus of scales often united into a cupule.

GENERAL DISTRIBUTION: Puerto Rico, northern South America.

Distribution in Lesser Antilles: Anguilla!, St. Barts!, Barbuda!, Antigua!, Saba!, St. Eustatius!, St. Kitts!, Redonda!, Montserrat!, Guadeloupe!, La Désirade!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

Common names: Marigold, sousouyou, sousouri.

Notes: As evident from the synonymy suggested, this is a variable and polymorphic species. Schulz accepted *W. jacquini* L. C. Rich. which he termed a ''species collectiva'' and described a myriad of subspecific taxa. However *W. jacquinii* Rich. *in* Pers., Syn. Pl. **2:** 490. 1807, is illegitimate as *W. frutescens* Jacq. (= *W. fruticosa* Jacq. q.v.) was cited in synonymy. Studies of these plants when collected throughout their range in the Lesser Antilles fail to reveal any patterns of taxonomic value. Even branches of individual plants show the characteristics Schulz described for several of his taxa.

Wedelia fruticosa Jacq., Enum. Pl. Carib. 28. 1760.

Type: Not determined. In the original publication only the symbol for a shrub was given. The following cited illustration probably should be designated as the lectotype.

Syn.: *Wedelia frutescens* Jacq., Select. Stirp. Amer. 217, *t. 130.* 1763. (Type: Colombia, *Jacquin s.n.* (n.v.).)

Wedelia jacquinii Rich. *in* Pers., Syn. Pl. **2:** 490. 1807, nom. illeg. based on *W. frutescens* Jacq.

Wedelia pulchella Kunth, Nov. Gen. Sp. Pl. **4:** 214. 1818, ed. quarto; **4:** 168. 1818, ed. folio. (Type: Venezuela, Cumana *Humboldt & Bonpland.*)

Diffusely spreading herb, stems slender. Leaves with petioles 3-5 mm long, blades ovate, 2.5-3.5 × 1.5-3 cm, base rounded and decurrent on petioles, apex acute, margin entire to slightly serrate, scabrous both surfaces. Peduncles axillary and terminal, 4 cm long, pubescent; phyllaries 5, broadly ovate, strigose; pales 6-7 mm long, obovate, ciliate; ray florets 8 or 9, disk florets ca. 40. Achenes oblong, 3 mm long, brown, pilose; pappus of coronate scales.

General distribution: Northern South America.

Distribution in Lesser Antilles: Martinique!.

Note: Collected by Stehlé (*5716*) near the military hospital in Fort de France. A probable adventive.

Wedelia gracilis L. C. Rich. *in* Pers., Syn. Pl. **2:** 490. 1807.

Type: Santo Domingo, *Richard s.n.,* n.v.

Herb, stems slender, repent, trailing and rooting with tips erect, to 18 cm, hirsute. Leaves subsessile or petioles of 1-3 mm; blades obovate to orbicular, 1.5-6 × 1-4 cm, base cuneate, tapering, apex acute or obtuse, margin crenate to dentate above the middle, sometimes 3- to 5-lobed, membranaceous, loosely hirsute-scabrous on both surfaces, golden glands present, venation triplinerved. Peduncle terminal and/or in upper axils, to 12 cm long;

phyllaries 6-8 mm long, hispid; ray florets 12 or 13, disk florets 20, yellow. Achenes 3.5 mm long, compressed, tuberculate, apex rostrate; pappus coronate, white.

GENERAL DISTRIBUTION: Greater Antilles.

DISTRIBUTION IN LESSER ANTILLES: St. Martin, St. Barts, Barbuda, Antigua!, Guadeloupe, Martinique, Barbados.

NOTES: The range as given by Velez cannot be verified. Schulz (*in* Urb. Symb. Antill. **7:** 99. 1911) excluded the material from Antigua cited in the original description and thus defined the type locality as Santo Domingo. In the same publication we can find no reference to his disposition of the Antigua material.

Wedelia trilobata (L.) Hitchc., Missouri Bot. Gard. Ann. Rep. **4:** 99. 1893.
FIGURES 229m, 279.

Basionym: *Silphium trilobatum* L., Syst. ed. 10, **2:** 1233. 1759.
Lectotype: Plum. Pl. Amer. *t. 107, f. 2.*
Syn.: *Wedelia carnosa* Persoon, Syn. Pl. **2:** 490. 1807, nom. illegit. citing *Silphium trilobatum* L.
Wedelia carnosa L.C. Rich. *in* Spreng. Syst. Veg. **3:** 581. 1826. (Type: *Richard s.n.* n.v.)
Wedelia crenata L.C. Rich. *in* Pers. Syn. Pl. **2:** 490. 1807. (Type: Guadeloupe, *Richard s.n.*)

Herb with prostrate trailing and woody stems, often exceeding 1 m, branches mostly glabrate. Leaves subsessile or with petioles to 1 cm long; blades elliptic to obovate in outline, 2-12 × 1-6 cm, base narrowed or cuneate, apex acute, margin usually several-lobed, triplinerved or pinnately veined, fleshy, glabrous or sparsely pilose at the base. Peduncles solitary in upper axils, 2-14 cm long, involucre 8-12 mm high, phyllaries 5, oblong-obovate, foliaceous; pales linear-lanceolate, 6-7 mm long, thin or papery; ray florets 10, ligules 10-15 mm long, bright yellow, disk florets ca. 25. Achenes oblong to obovoid, 5 mm long, compressed, tuberculate, glabrous; pappus cupuliform, of united scales.

GENERAL DISTRIBUTION: Florida, Greater Antilles, Mexico, Central and South America.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, St. Kitts!, Montserrat!, Guadeloupe! La Désirade!, Marie Galante!, Dominica!, Martinique!, St. Lucia!, St. Vincent!, the Grenadines!, Grenada!, Barbados!.

COMMON NAMES: Yellow marigold, verven carib, herb soleil, vin vin caribe.

WULFFIA Necker ex Cassini

Wulffia Necker ex Cass., in Cuvier, Dict. Sci. Nat. **29:** 491. 1823.

Herb or shrub. Leaves opposite, petiolate, toothed, venation triplinerved. Heads solitary or few at ends of branches, heterogamous, radiate, ray florets neuter, sterile, sometimes wanting, disk florets perfect, involucre hemispherical, phyllaries on 2 or 3 series, receptacle convex, pales stiff, subtending and surrounding the fertile florets. Achenes obovoid-oblong, 4-angled, often fleshy, truncate without pappus.

TYPE: *Wulffia baccata* (L.) Kuntze.

A genus of 4 species of tropical America.

Wulffia baccata (L.f.) Kuntze, Revis. Gen. Pl. **1:** 373. 1891.
FIGURES 229n, 280.

Basionym: *Coreopsis baccata* L.f. Suppl. 380. 1781.
Type: Suriname, *Dalberg s.n.*
Syn.: *Wullfia stenoglossa* DC., Prodr. **5:** 373. 1836, nom. illegit. citing *Coreopsis baccata* L.
Wulffia havanensis sensu Griseb., non DC.
Wulffia baccata (L.f.) Ktze., var. *vincentina* Schulz, *in* Urb. Symb. Antill. **7:** 93. 1911. (Syntypes: St. Vincent, *H.H. & G.W. Smith 285, Eggers 6875.*)

Perennial herb, or small shrub to 3 m tall, branches often scrambling, stems quadrangular, hispid. Leaves on petioles 1-2 cm long, blades broadly ovate, 8-15 × 4-8 cm, base rounded, apex acute or acuminate, margin obscurely dentate to crenate, surface scabrous. Head terminal or in upper axils, solitary or 1 to 3 per inflorescence, peduncles 1-7 cm long, involucre biseriate, phyllaries oblong, 4-6 mm long, acute, hirsute, foliaceous; pales oblong, apiculate, striate, rigid, stramineous, ray florets 8 to 15, sterile, disk florets perfect, yellow. Achenes oblong, 3.5-4 mm long, obscurely quadrangular, truncate, apically pilose, often fleshy; pappus coronate of very short hairs.

GENERAL DISTRIBUTION: Panama, Venezuela, Colombia.

DISTRIBUTION IN LESSER ANTILLES: Guadeloupe!, Dominica!, Martinique!, St. Lucia!, St. Vincent!.

COMMON NAME: Gros bouton.

XANTHIUM L.

Xanthium L., Sp. Pl. **2:** 897. 1753.

Annual herbs. Leaves alternate, large, lobed, with resinous dots, commonly scabrous. Plant monoecious, staminate heads uppermost, involucre subglobose, many-flowered, bracts in 1 to 3 series, corolla tubular, 5-lobed, pistillate heads burrlike, involucre united, with hooks or prickles, flowers 2, corolla wanting, branches of style exserted. Achenes linear, compressed, slender beaked, smooth, produced singly in chambers of involucre.

TYPE: *Xanthium strumarium* L.

A cosmopolitan genus considered by some to consist of 2 species and by others to be divided into 30 species. For further information see Millspaugh & Sherff, Pub. Field Mus. Nat. Hist., Bot. Ser. **4:** 9-49. 1919.

Xanthium strumarium L., Sp. Pl. **2:** 897. 1753. FIGURES 229o, 281.

Type: "China" but probably Mexico.
Syn.: *Xanthium echinatum* Murr., Comm. Goett. **6:** 32. 1785. Type: Undetermined.

Herb to 70 cm tall. Leaves with petioles 7-12 cm long, blades triangular-orbicular, 7-12 × 6-12 cm, base cordate or reniform, apex acute, 3- to 5-lobed and dentate, scabrous with appressed hairs, golden glandular. Inflorescence racemose, to 10 cm long, staminate heads globose, phyllaries numerous, foliaceous, 3 cm long, strigose, florets numerous. Fruiting involucre ovoid or fusiform, 0.9-1.5 cm long, spines 5 mm long, hooked, mostly glandular-pubescent, beaks straight or arcuate, inflexed or weakly hooked.

GENERAL DISTRIBUTION: Weed of European origin.

DISTRIBUTION IN LESSER ANTILLES: Antigua!, Nevis!, Dominica!, Martinique!.

COMMON NAMES: Zaydri couchou, burrweed.

NOTES: Material from the West Indies has been called *Xanthium chinense* Miller and this name and *X. strumarium* have been considered synonyms of *Xanthium occidentale* Bertol. The correct name for the plants of the Lesser Antilles is uncertain.

YOUNGIA Cassini

Youngia Cass., Ann. Sci. Nat. I, **23:** 88. 1831.

Herbs. Leaves alternate, mostly basal, lyrate, pinnatifid, membranaceous. Inflorescence paniculate or corymbose; heads small, involucre cylindrical, phyllaries biseriate, receptacle flat, naked, florets ligulate, 8 to 20, ligule 4- or 5-dentate, anthers with linear acute basal auricles. Achene small, oblong, subterete or angular, attenuate at both ends, ribbed, with disk at apex; pappus setaceous, hairs numerous, uniseriate, filiform.

TYPE: Not designated.

A genus of ca. 30 species of temperate and tropical Asia, introduced elsewhere. For further information see E. B. Babcock & G. L. Stebbins, Carneg. Inst. Wash. 484. 1-106. 1937.

Youngia japonica (L.) DC., Prodr. **7:** 194. 1838. FIGURES 229p, 282.

Basionym: *Prenanthes japonica* L., Mant. Pl. 107. 1767.
Type: Japan, *Kleinhoff*, LINN 952.6.
Syn.: *Crepis japonica* (L.) Benth., Fl. Hong Kong 194. 1861.

Annual herb, commonly 20 cm or to 1 m tall, scapose or few-leaved. Rosette leaves lanceolate-oblong or lanceolate-obovate, 3-6 × 2-5 cm, runcinate-pinnatifid, terminal segment large, margin dentate, cauline leaves reduced, base tapering, apex rounded or acute, membranaceous, glabrous. Inflorescence scapose, diffusely cymose-paniculate, involucre 4 mm high, phyllaries 6 or 7, outer series ovate, 1-2 mm long, inner series linear-oblong, to 5 mm long, glabrous, heads 20-flowered, yellow. Achenes oblong-ellipsoid, 1.5 mm long, subterete, tapered at each end, many-ribbed, minutely scabrous on margins, brown; pappus bristles 4 mm long, white.

GENERAL DISTRIBUTION: Native of Asia but widely established in tropical areas.

DISTRIBUTION IN LESSER ANTILLES: Dominica!.

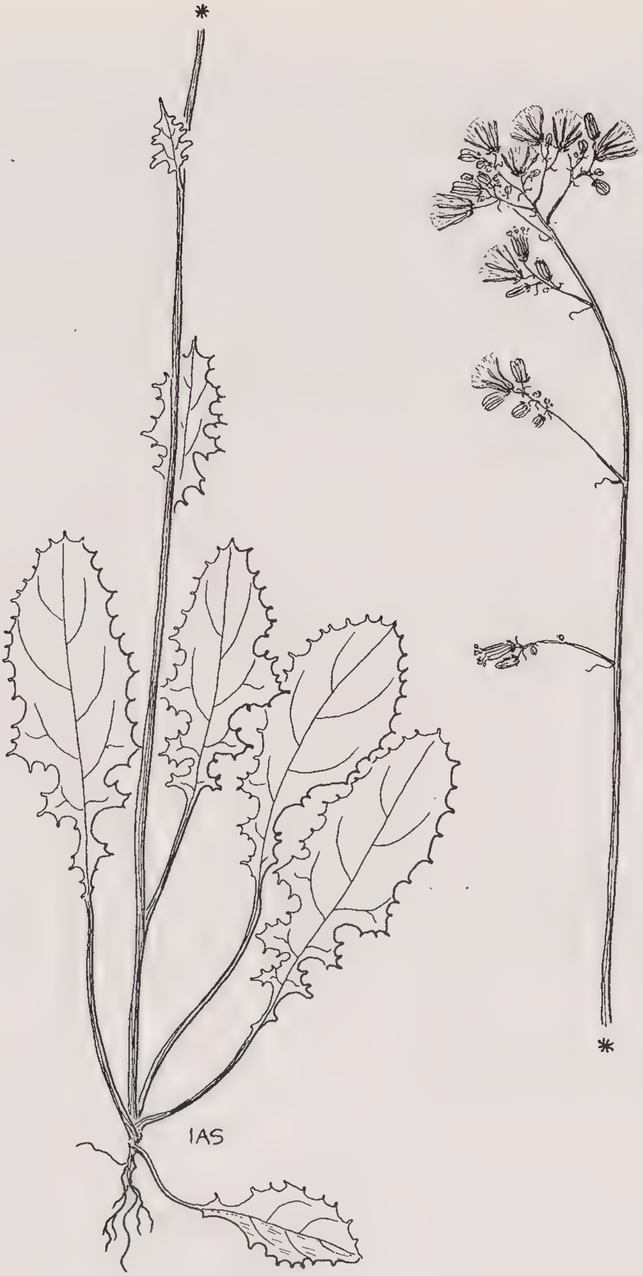


Figure 282. *Youngia japonica*: × 0.8.

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